





# David White describes the 'dirty war' dominating Spain's election campaign Waves of sleaze set to drown González



## How botched anti-terrorist operations could force PM to testify about government role in killings

Four Spanish policemen go to France on a secret mission to capture a terrorist suspect. But as they try to bundle him into a car they are nabbed by French police and taken in. A few weeks later, another mission is launched to kidnap another terrorist suspect, this time using mercenaries. They get back to the border but the frontier police (this is in the time of border controls) have not been tipped off. They try a second border post: same result. At the third attempt, they get through. Another car meets them and they all go to a hiding place in northern Spain. But they have got the wrong man.

It is decided to hold on to him, and a note is sent demanding that the French release the four Spanish policemen from custody. The policemen are allowed to return. After 10 days in captivity, the bemused victim is released.

This inglorious episode, the first action claimed in the name of the Anti-Terrorist Liberation Groups (GAL), is related in Supreme Court Judge Eduardo Mónica's charges against Mr José Barrionuevo, interior minister from 1982 to 1988.

Curiously, the case has so far focused on the least serious of all the crimes attributed to the GAL, which include about 25 murders.

The initials GAL surfaced in late 1983, a year after the Socialists came to power. But they were preceded by other shadowy organisations including the Spanish-Basque Battalion and the Apostolic Anti-Communist Alliance. The same man whom the mercenaries were supposed to kidnap was the target of an unsuccessful car bomb attack two years earlier. Between 1978 and 1981 more than 20 people were killed in apparent anti-terrorist reprisals.

The question is whether the GAL were simply a continuation of these practices, with the connivance of local officials, or whether government figures actively promoted them. The charges, based on other defendants' testimony, attribute "executive functions" in the GAL to Mr Barrionuevo and Mr Rafael Vera, his former security chief. Whether Mr Felipe González himself is called in is something the judge has yet to decide.

— a move permitted by a law introduced by the Socialists themselves — and proceeded to reopen the GAL inquiry, thereby becoming the scourge of the government he had served under.

Socialist leaders hinted at a "political operation" against them. Mr Barrionuevo and Mr Rafael Vera, former number two at the ministry, both tried to get him taken off the case. Last summer Mr Garzón handed the main case up to the Supreme Court to deal with the accusations made against senior politicians. But he is still burrowing away at the GAL affair, pursuing individual murder cases.

The reason for the high profile enjoyed by some judges lies largely in the court structure, says Mr Jaime Alonso, a criminal lawyer in Madrid. The National Court was created after General Franco's death, replacing the notorious Public Order Tribunal.

Its main job — paradoxical as it seems now — was to provide a central court for trying Basque terrorists, on the grounds that judges in the Basque country would come under too much pressure. Its responsibilities were later extended, and now include business crimes. This means a lot of the biggest investigations pile up on the desks of just six National Court judges.

The welter of cases is made worse by a peculiarity of Spain's legal system, under which anybody can bring a

# Poll violence fears fuelled by shooting

By David White in Madrid and Lionel Barber in Brussels

Fears of a resurgence of Basque violence during the Spanish general election campaign became starkly real yesterday when the brother of a Socialist MP was murdered on a San Sebastian street.

The murder was assumed to be the work of Eta, the armed Basque separatist organisation. It was the first political killing in Spain since the government announced an early general election on March 3.

Mr Fernando Múgica, a well-known lawyer prominent in local Socialist politics, died in hospital after being shot in the head while returning from court with his son.

His brother, Mr Enrique Múgica, a former justice minister, heads the Socialist list of candidates for the Basque province of Guipuzcoa, a stronghold of radical Basque nationalism. While in the government, he was responsible for a controversial policy of dispersing Eta prison inmates in jails across the country.

In a similar attack a year ago, an Eta gunman killed the local leader of the centre-right Popular party, Mr Gregorio Ordóñez, in a San Sebastian restaurant in the Basque country.

It had been widely feared that Eta, reduced to a small hard core, would try to mount a spectacular operation during the election period.

The killing served to dramatise a diplomatic quarrel that has broken out between Spain and Belgium over an extradition case. Madrid yesterday voiced "profound displeasure" at Belgium's decision to release a Spanish couple alleged to have collaborated with Eta, and said it was suspending "all aspects" of judicial co-operation between the two countries.

Belgium's ambassador in Madrid was summoned to the foreign ministry yesterday morning and his Spanish counterpart was called back from Belgium "to inform the government of the new situation". Diplomats said this was a step short of recalling an envoy for "consultations".

The couple, Mr Luis Moreno and Ms Raquel Garcia, were released from custody after the foreign ministry yesterday announced an extradition order agreed by the justice ministry two weeks ago. They are accused of having provided accommodation and transport for an Eta unit in the Bilbao region.

Spain has been seeking their return since 1993. The foreign ministry said the release was "in open contradiction" with EU co-operation agreements. It urged the Belgian government to use all means to ensure the couple did not evade justice.

Belgium said last night it had no choice but to comply with the decision of the court, which had ruled that the Spanish case for extradition was not compatible with the definition of terrorist activities in the 1977 European Convention.

**DIRTY WAR**  
Former interior minister Barrionuevo charged by Supreme Court judge on three counts in kidnap case; 14 others charged by National Court judge. Five further cases connected with the Anti-Terrorist Liberation Groups (GAL), involving murders, in National Court.

**TAXES & SHARES**  
Former Bank of Spain governor Rubio charged by Madrid judge with falsification and tax fraud. Also accused in separate case over manipulation of share prices. After led former finance minister Solchaga to quit as Socialist parliamentary leader.

**FRAUD & BRIBERY**  
Former Civil Guard chief Poldán in custody on charges including misappropriation, fraud and bribery. Fled Spain in 1994, prompting instant resignation of interior minister Asunción. Poldán arrested in Bangkok last year. Former Socialist regional president charged in Navarra in related case.

**SECRET FUNDS**  
Senior officials, including former interior minister Corcuera, on charges of misusing discretionary secret funds.

**PHONE-TAPPING**  
Former intelligence service chiefs accused of illegal phone-tapping. Further case in military court over removal of secret documents. Deputy premier Serra and defence minister Vargas both cut over affair.

**PARTY FINANCE**  
Seven charged out of 39 initially cited in case over alleged illegal financing of Socialist party in late 1980s.

**SCANDAL IN SPAIN**  
The Case File

# German economists argue against job alliance plan

By Peter Norman in Bonn

Senior German economists yesterday urged the Bonn government and employers' organisations not to accept key elements of the "alliance for jobs" proposed by the IG Metall trade union as a way of reducing unemployment.

The committee of academic economists which advises the economics ministry said industry should not promise to create a specific number of jobs in return for wage restraint by unions. Nor should the government fall in with union demands to abandon plans to cut unemployment pay and tighten the criteria for social security payments.

The alliance for jobs as put forward by Mr Klaus Zwickel, head of IG Metall, envisages union acceptance of pay increases no higher than inflation next year in return for employers in the metalworking industry creating 300,000 jobs and employing 30,000 long-term unemployed in a three-year period starting this year.

With official figures tomorrow expected to show German unemployment above 4m, the plan has been broadly welcomed by the government while avoiding any commitment to change its policies in line with the union's wishes.

In a report explaining how best to reduce the 1.13m-strong ranks of Germany's long-term unemployed, the advisory committee said the union's offer of wage restraint and other concessions could be an important contribution towards employing those who had been out of work for more than a year.

But employers' organisations should not commit their members to job creation, and government action to reform Germany's social security system was essential.

The 30-strong academic committee, chaired by Mr Norbert Klöten, a former head of the government's council of economic advisers, said the

# Italian constitutional pact runs into opposition

By Robert Graham in Rome

The leader of Italy's Party of the Democratic Left (PDS) is facing a strong groundswell of protest from his supporters over last week's pact to back a new government committed to significant constitutional reforms.

The objection is embarrassing Mr Massimo D'Alema and is straining the centre-left coalition which the PDS dominates. If it continues to gain momentum, it could seriously limit Mr D'Alema's room for manoeuvre in pursuing constitutional reform and put his leadership at risk.

One of the main "dissident" figures is Mr Stefano Rodotà, a former chairman of the PDS parliamentary group and a leading party intellect. But those voicing outright opposi-

tion to the pact include Mr Alfiero Grandi, prominent on the left of the main CGIL union confederation, and Mr Sergio Garavini, veteran member of Reconstructed Communism, formed from the hard-line of the old Italian Communist party.

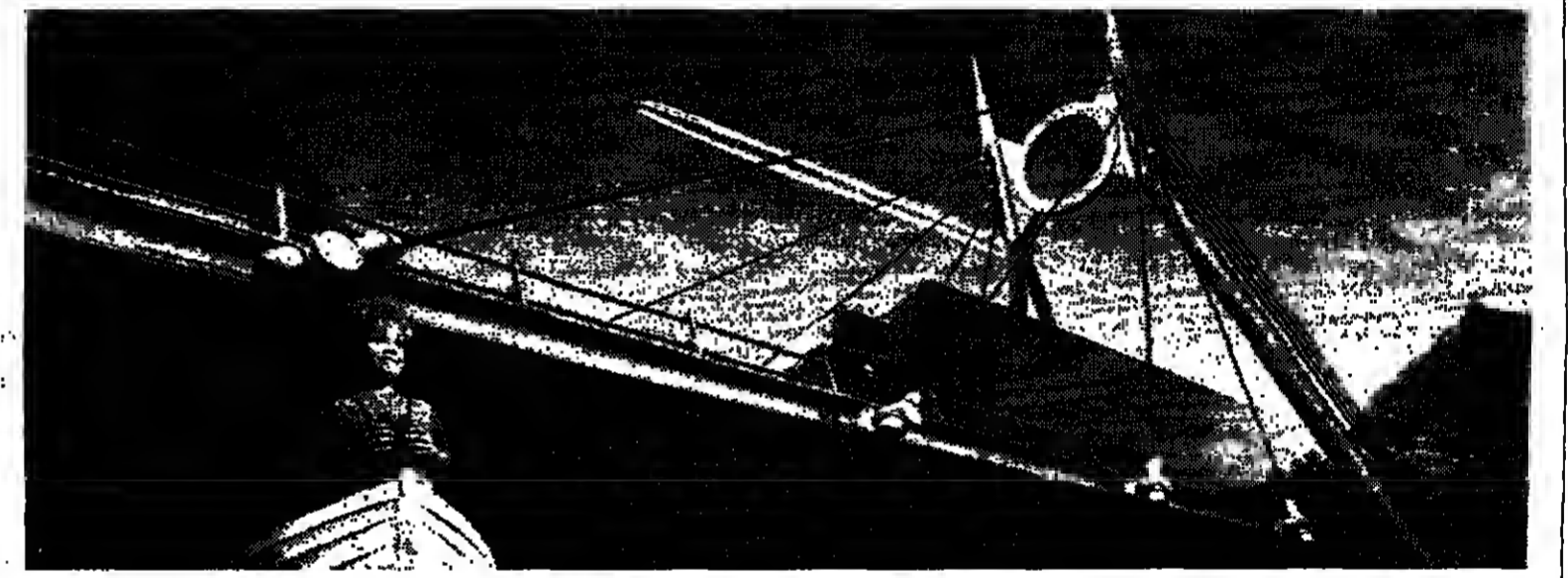
Just as important are those who are reluctant to undermine Mr D'Alema directly but are nevertheless extremely critical of the deal with the rightwing coalition headed by former premier Silvio Berlusconi and Mr Gianfranco Fini, leader of the National Alliance.

Both the latter and the open dissidents are concerned that Mr D'Alema has agreed to introduce an ill-defined semi-presidential system of government alien to the traditions of both the centre and left in Italy.

They mistrust Mr Berlusconi's motives in agreeing to implement constitutional reforms after refusing to co-operate on such changes for the past two years in parliament. Furthermore, they are extremely wary of Mr Fini's insistence on a strong directly elected chief executive which smacks of authoritarianism.

At a press conference yesterday the dissidents said they were not seeking to create a new party but rather form a unified front to oppose the introduction of the proposed semi-presidential system modelled on that of France. "Semi-presidentialism does not provide stability," Mr Rodotà said.

A system based more on a German-style chancellor as chief executive was more suitable to Italy.



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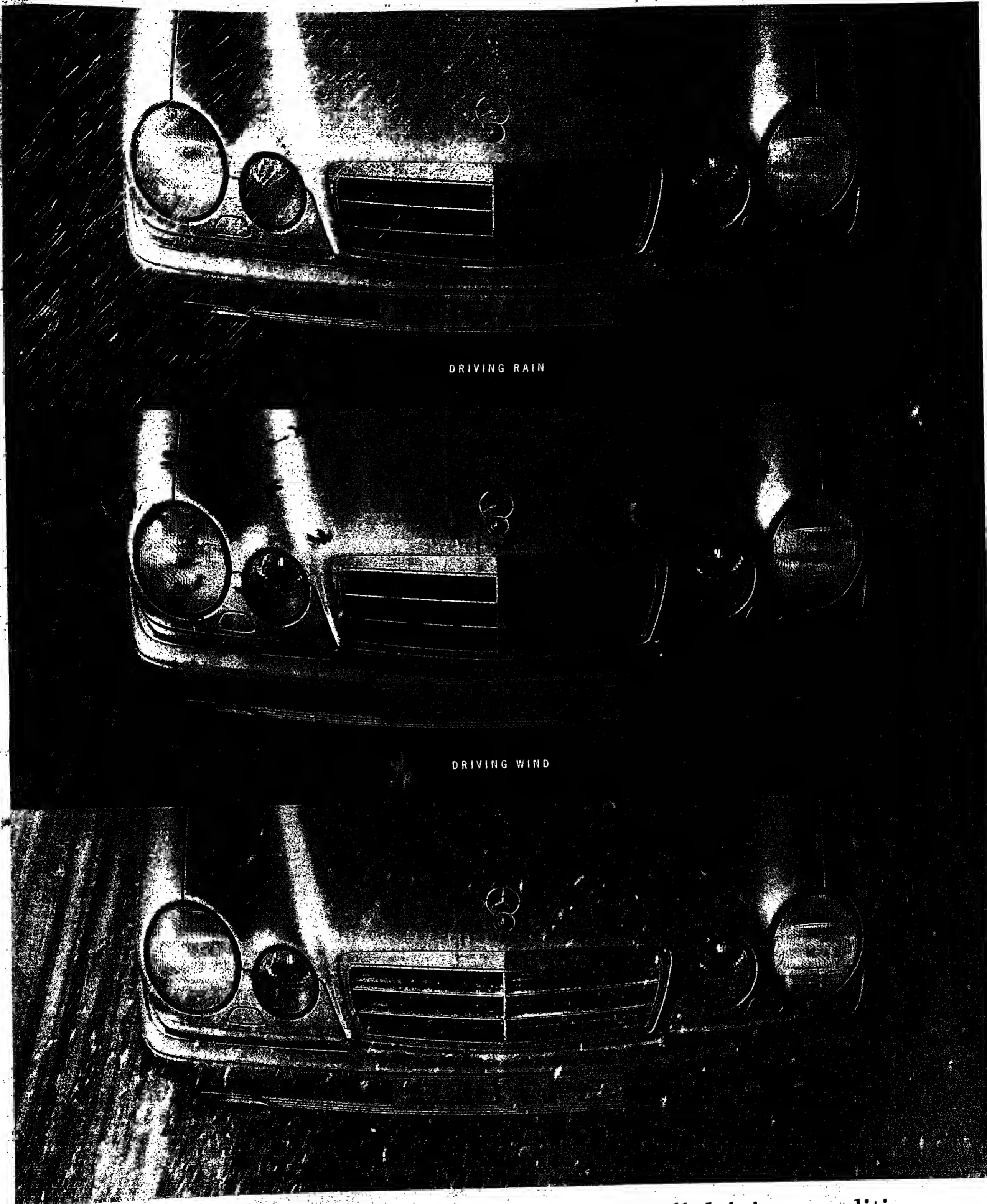
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NEWS: UK

German states ban UK beef for BSE fear

By Peter Norman in Bonn, Caroline Southey in Brussels and Alison Mathland in London

Three of Germany's federal states yesterday acted to ban imports of British beef...

Following the expiry of regulations that permitted imports of UK beef from animals younger than 2 1/2 years...

ban on slaughtering cattle from the UK and their offspring in the state.

The action prompted an aggrieved response from the British embassy in Bonn...

Yesterday's bans on British beef imports came after the federal government in Bonn had refused to accept a unanimous call from the Bundesrat...

The regulations approved by the Bundesrat contravened EU law. The stand-off between the two sides resulted in the previous regulations expiring yesterday without any replacement.

The European Commission said yesterday that the German state's action appeared to be illegal. But, an official, said the Commission still had to examine the decision in detail.

The official added that if the Commission struck to the view that the action was illegal, "we will have no choice but to take action" against Germany.

to revoke the decision. If it fails to do so the only course open to the Commission would be to challenge the German decision in the European Court of the official said.

"If member states no longer observe EU rules we will not have a single market any more. The Commission is obliged to ensure EU states uphold EU laws," the official said.

The UK's ministry of agriculture said it was concerned the move was illegal under EU free trade rules. "We want the Commission to stamp it out as quickly as possible."

ashed out at the Conservative party's Eurosceptics, accusing them of undermining Britain's negotiating position in Europe.

He said there were times when Britain's competitors must be "rubbing their hands with glee and downing another schnapps to the success of the Eurosceptics".

His outspoken remarks were supported by a union survey of over 400 members showing that 64 per cent thought the government's stance in Europe had been too sceptical and had reduced Britain's influence.

Defence ministry to cut back residences

By Bernard Gray, Defence Correspondent

Britain's Ministry of Defence is to prune the number of lavishly "official service residences" used by senior officers from 75 to 44 in the wake of the scandal over Air Chief Marshal Sir Sandy Wilson's £385,000 (588,350) refurbishment of his Haynes Garth official home.

However, most of the 31 unlucky residents of the exiled houses, who were informed of the change yesterday, will remain where they are and their homes will be redesignated as ordinary "married quarters".

The MoD said that the main savings from the changes would come from reduced staffing of the remaining official houses. Currently staffing the residences costs £3m a year, but staff numbers are to be reduced from 254 to 106.

The changes are a response to Sir Peter Cazalet's investigation of the grand houses used by senior officers for official entertainment, commissioned in the wake of the Haynes Garth fiasco.

Officers will also no longer be paid a daily entertainment allowance, which ranged up to £20 a day for admirals and cost the MoD £5m last year. Instead will be forced to account for entertainment expenses as they go.

While few of the occupants of the downgraded houses will be forced to leave, the properties will no longer be renovated with "enhanced fixtures and fittings" when they fall due for redecoration.

Some residences will be sold. The commandant's house in Hong Kong, The Mount in Gibraltar and Field Marshal Vincent's house at Nato in Brussels are all to go. The MoD confirmed on Monday that Haynes Garth is also on the market. Estimates suggest it may fetch £450,000, about £60,000 more than Sir Sandy Wilson spent on the property.

Wheel supplier hails investment payback

By Peter Marsh in London

Bob Morgan has a ready answer for those who ask about the likely payback from a two-year, £10m (£15.1m) investment and a doubling of his training budget.

Mr Morgan, managing director of Dunlop-Topy Wheels, Britain's biggest and Europe's fourth largest supplier of car wheels, points to steadily expanding output and a special quality commendation last month from General Motors, the world's biggest automotive company.

But just a few roads away in the Midlands city of Coventry, it is a different story for Clearplas, a similar-sized company which also makes parts for the vehicle industry.

Suter, the industrial company which owns Clearplas, said this week the business was likely to close with the possible loss of 440 jobs. This is in spite of £7m of capital spending during the past three years and a 50 per cent increase in annual sales over this period to some £23m.

The contrasting fortunes of the two companies illustrate the narrow line between success and failure in the vehicle parts industry - which in the UK has enjoyed a large increase in sales volumes on the back of big investment in car plants but where profits are under relentless pressure.

Following the lead set by Toyota, Nissan and Honda, the Japanese car companies with UK production bases, most of the big European-based automotive businesses monitor their suppliers virtually non-stop for quality and institute



Revolutionary: Bob Morgan displays a winning wheel. His company won a quality commendation from General Motors

continual "cost down" programmes to get them to reduce product prices.

The suppliers know that unless they indicate a constant desire to improve quality and keep costs under control they may be dumped from the next set of new-model orders.

The pressure by the car groups is in turn driven by heavy competition in the vehicle market, which across Europe is showing signs of overcapacity as manufacturers brace for another disappointing year after a dismal 1995.

Explaining the reasons for Clearplas's likely closure, although selling the plant remains an option, Mr David Abell, Suter's chairman, said the plant was "not viable" given the moves by car companies to push down costs. "We

were having to spend millions of pounds just to stand still," he said.

In the past three years, Clearplas, which makes plastic trim parts mainly for Rover, part of the German BMW car group, and Ford, has taken on about 140 new employees to cope with increased orders. However, it is barely profitable.

At Dunlop-Topy - owned 85 per cent by industrial group BTR and 15 per cent by Topy Industries of Japan, the country's biggest wheel maker - the mood is more upbeat. The company is expected to turn out this year about 7m wheels, worth some £46m.

Mr Morgan is especially proud that his company is the first of GM's 1,500 European suppliers to qualify for a new

US-derived technical standard called the QS-9000 that certifies motor parts groups according to quality and reliability.

Asked to justify the company's £500,000 a year training programme - up from half this level two years ago and which seeks to encourage teamwork and self-assessment among the 450-strong workforce - Mr Morgan points to a new order gained a few months ago from Land Rover, part of the Rover group, and which is likely to be worth some £2m a year.

He said he had heard from Land Rover that it was considering giving the contract - for 100,000 wheels a year for a remodelled version of its Discovery vehicles - to a competitor such as Lemmerz of Germany or Dunlop Roues, a French-based subsidiary of

Sumitomo Rubber of Japan. "Without the productivity improvement that came with the training, I don't think we would have got the order," said Mr Morgan who was installed as managing director at Dunlop-Topy 13 months ago from another part of BTR and after 30 years in the industry.

Recent changes at Dunlop-Topy - including investment to automate parts of the wheel-making process and changes in top management - also appear to have had a positive impact on other customers, including Toyota and Nissan.

The lesson, according to Mr Phil Newport, engineering manager at Dunlop-Topy, is that "spending money alone is not what matters, it is what you do with the people that matters".

Car sector pins sales hopes on tax cuts

By John Griffiths in London

New UK car registrations in January were just 0.3 per cent above year-ago levels, leaving a "very disappointed" motor industry hoping that tax cuts due in April could coax back buyers.

The 191,761 new cars registered last month, well below the level of two years ago, has set alarm bells ringing among the volume manufacturers. They may find it increasingly difficult to carry out their pledges to restrict sup-

Car sector pins sales hopes on tax cuts

plies to the short-term rental market - now suspected of undermining the entire new car market.

Yesterday's statistics also showed a continuing rise in the market share taken by imports. They accounted for 60.9 per cent of registrations in January, compared with 58.9 per cent in the same month last year.

Ford started the year with its market leadership securely in place, with a share of 21.8 per cent and three of its models, the Fiesta, Mondeo and Escort,

Falling output leads to rate cut call

By Gillian Tett, Economics Correspondent

British factories cut production in December, raising fresh concern about the economy four years after it climbed out of recession.

The decline in output left the longer term trend for manufacturing growth at its weakest level since 1992.

Decision expected on European channel rail link

By Charles Batchelor, Transport Correspondent

London & Continental Railways, the favoured bidder for the £3bn (£4.5bn) English Channel tunnel high speed rail link, is negotiating the final details of the package required to clinch the deal, rail industry managers close to the bid said yesterday.

Eurotunnel, the rival consortium, has not been ruled out of the bidding, but L&C has been in exclusive negotiations for the past 10 days and is believed to be finalising financial commitments with its bankers and settling legal details.

Decision expected on European channel rail link

operator of the Channel tunnel, expects a 50 per cent increase to 580,000-600,000 in the number of trucks it carries through the tunnel this year over 1995. Mr Christian Zbylut, freight director, said yesterday, Charles Batchelor writes.

If one or more of the three ferry companies which operate between Dover, Folkestone and Calais decides to withdraw or reduce sailings then the increase for Eurotunnel could be even greater, he said. In 1995 it carried 391,000 trucks. The number of trucks carried rose

Decision expected on European channel rail link

steadily last year as Eurotunnel increased the frequency of its freight shuttles. The company's claimed share of the market for accompanied trucks rose to 48 per cent in January 1996 from 20 per cent a year earlier.

Eurotunnel currently has the capacity to carry up to 3,500 trucks a day but this will be increased by 7 per cent later this year when an additional 16 shuttle wagons are delivered. It will rise again at the end of 1996 when two complete new shuttle trains are supplied.

Eurotunnel expects to place the order with a different supplier to the one, Breda of Italy, which supplied the first shuttle trains and believes it can obtain them for less than half the price.

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Falling output leads to rate cut call. By Gillian Tett, Economics Correspondent. British factories cut production in December, raising fresh concern about the economy four years after it climbed out of recession.

Decision expected on European channel rail link. By Charles Batchelor, Transport Correspondent. London & Continental Railways, the favoured bidder for the £3bn (£4.5bn) English Channel tunnel high speed rail link, is negotiating the final details of the package required to clinch the deal, rail industry managers close to the bid said yesterday.

UK NEWS DIGEST. Labour weighs expansion of PM's authority. Labour is considering creating a powerful prime minister's office by merging the functions of Downing Street and the cabinet office if it forms the next government. The proposal is likely to arouse concern among many backbenchers and several members of the shadow cabinet who are already worried by the centralisation of authority under Mr Tony Blair.

مكتبة النور



ARTS

A the baddie in ITV's Thief Takers pursued one detective, running along pointing a pistol at his head...



Dennis Franz, Kim Devaney and Jimmy Smits in 'NYPD Blue': makes the British cop series 'Take Thief' look like Enid Blyton

Television/Christopher Dunkley

US is top of the serial cops

Americans make expensive, fast moving action series which are, however, shallow, repetitive, and aimed at the undemanding. The British, meanwhile, supposedly turn out material which is cheaper and less dynamic...

The X-Files, which looks exactly like a serious detection series, lacking even a hint of the self-ridicule in, say, The Avengers...

found in the real-life O.J. Simpson trial and created Murder One, a drama serial of 23 one-hour episodes all centred upon a single crime...

British television drama has plenty to offer in addition to Middlemarch and Jane Austen. Current series which range from the adequate to the quite good include Our Friends in The North...

the orchestra; that is all, timeless and non-judgmental. Nothing else comes. We are left with the sense of something solemn but open-ended...

Opera in Brussels/David Murray

Powerful new perspective on Khovanshchina

In Brussels, the Théâtre de la Monnaie has mounted Mussorgsky's Khovanshchina to stirring effect. La Monnaie is bilingual Belgium's long-standing 'French' house, and De Vlaamse Opera...

their apotheosis before his premature demise; all we know is which old hymns he had chosen for the basis of the scene, and (roughly) how he meant to treat them.

The superbly rehearsed Belgian choruses carry so much of the drama

Theatre/Simon Reade

Fugard's 'Valley Song'

Until Nelson Mandela walked to freedom, Athol Fugard was South Africa's (white) liberal conscience, certainly to theatre-goers. Fugard's latest play, Valley Song, is playing to a (white) middle-aged liberal intelligentsia at the Royal Court...

that land? Buks put his first seed into that land when he was only a few years old. His life is as deeply rooted in that soil as the walnut tree next to the windmill.

like the independent orchestras, the BBC Symphony is under no great pressure to find world-famous names to conduct it: not famous but good will do nicely.

It made an excellent concert, interesting and thoroughly rewarding. The only tolerably familiar work was Janáček's epic tone-poem Taras Bulba, which he saved for a rousing finish...

another late piece (1956), from the composer's American period. By then he had cottoned on to the extrovert rhetoric of postwar American music...

Concert

Czech debut with the BBC

INTERNATIONAL ARTS GUIDE. Exhibition: Museum Picasso, Tel: 34-3-3196310. Barcelona: Exhibition: Museu Picasso, Tel: 34-3-3196310.

BONN: Dance: Oper der Stadt Bonn, Tel: 49-228-7281. Bonn: Exhibition: Schirn Kunsthalle, Tel: 49-29-898820.

FRANKFURT: Exhibition: Schirn Kunsthalle, Tel: 49-29-898820. Frankfurt: Exhibition: Schirn Kunsthalle, Tel: 49-29-898820.

LYON: Dance: Opéra de Lyon, Tel: 33-72 00 45 45. Lyon: Exhibition: Schirn Kunsthalle, Tel: 49-29-898820.

PARIS: Concert: Salle Pleyel, Tel: 33-1 45 61 53 00. Paris: Exhibition: Schirn Kunsthalle, Tel: 49-29-898820.

STUTTGART: Opera: Staatsoper Stuttgart, Tel: 49-711-20320. Stuttgart: Exhibition: Schirn Kunsthalle, Tel: 49-29-898820.

WASHINGTON: Exhibition: National Gallery of Art, Tel: 1-202-7374215. Washington: Exhibition: Schirn Kunsthalle, Tel: 49-29-898820.

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COMMENT & ANALYSIS

FINANCIAL TIMES

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Wednesday February 7 1996

Demerging British Gas

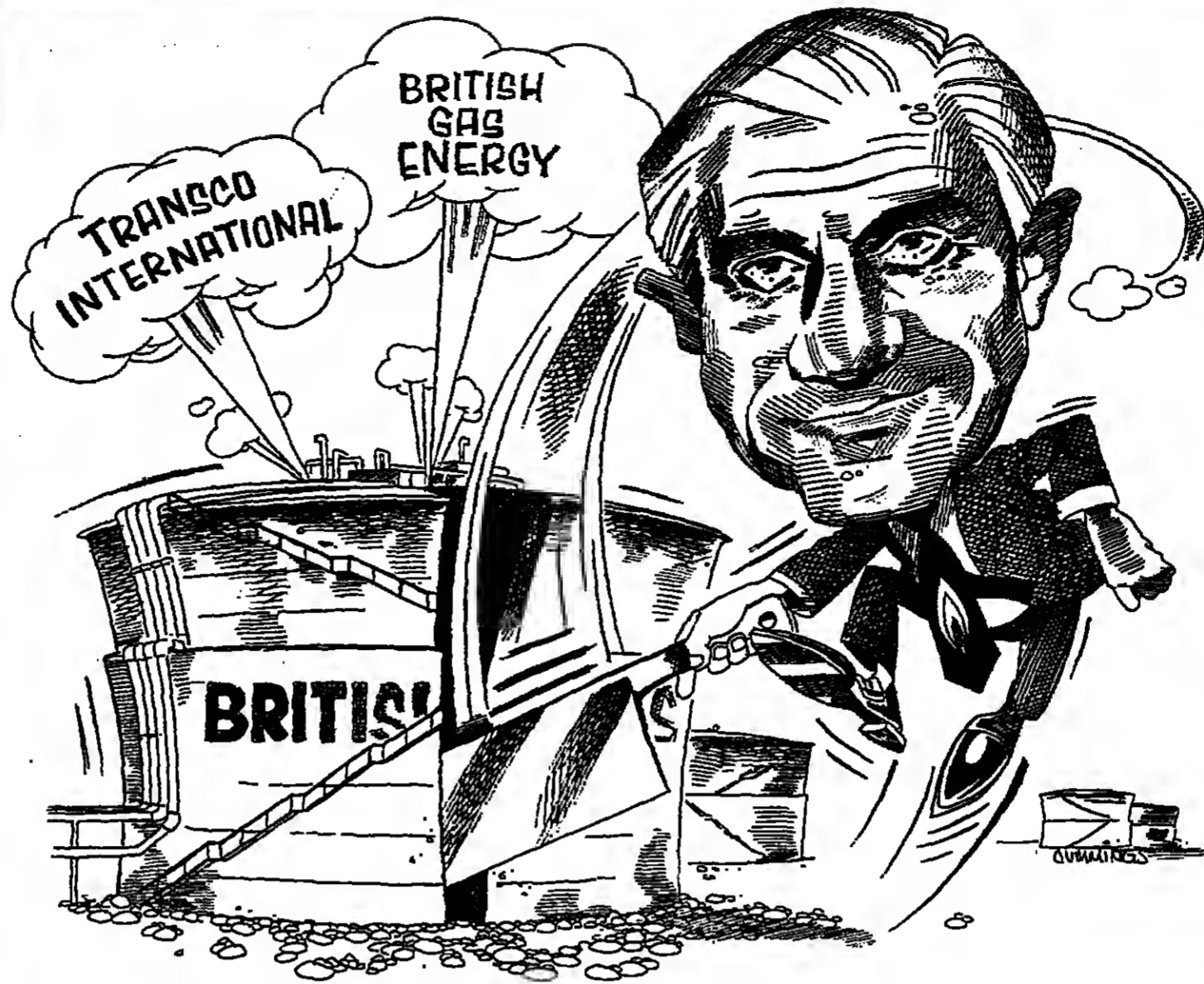
Ten years after privatisation, British Gas has finally dispersed with the legacy of Sir Denis Rooke, the autocratic former chairman who fought so hard to prevent the government selling the business off in parts. Its announcement that it plans to split into two separately listed companies is long overdue, though the move will not of itself solve the serious problems facing the group.

Aznar's plans

Question: how do you win next month's Spanish election on a platform of austerity and self-discipline? Answer: you keep the details to yourself. This appears to be the thinking behind the election programme unveiled yesterday by José María Aznar, leader of the Popular party and odds-on favourite to be Spain's next prime minister.

Irish beef

In two weeks' time, the European Commission has to decide on how much it is going to fine the Irish government for its failure to control widespread fraud in the beef market back in 1991. Commission officials have recommended penalties totalling more than £100m for a series of offences including irregularities in tendering for intervention beef contracts, and failing to ensure that the full value of intervention beef, subsidised by Brussels, was taken into storage.



A problem halved

Demerger could help British Gas deal with its commercial conflicts, say David Lascelles and Robert Corzine

The demerger of British Gas will be the largest corporate restructuring ever undertaken in the UK. It will also be the longest awaited, and potentially the most far-reaching, affecting virtually every household in the country and nearly 2m shareholders.

Stage set for fresh players

Like the cast of a play reaching its denouement, all the characters in the long-running British Gas drama were present for yesterday's announcement. Centre stage was the tall, commanding figure of Mr Cedric Giordano, the chairman who arrived two years ago to sort out the troubled company. A tough American, his voice hoarse from all the talking, he needed to convey the impression that everything was under control, that the demerger was in everyone's best interests.

OBSERVER

Tax and spend

No wonder Germany is having a spot of bother with its public finances. Despite repeated admonitions from the federal government, it seems to have no intention of cutting its 1996 budget. The Social Democratic government has already agreed to build a prison designed to house 540 inmates. Admittedly, costs spiralled after a terrorist attack in 1983, but an audit commission still described the complex in Westerstede as "a luxury establishment" and said it should have cost 30 per cent less.

Arms length

Have things got to the point where British cabinet ministers do not dare to be seen in the same room as Chancellor Helmut Kohl? It is hard to find any other explanation for last weekend's strange behaviour by Malcolm Rifkind and Michael Portillo. Both went to Munich for fringe meetings with their German - and, in Portillo's case, also French and US - opposite numbers.

Gavazzeni's coda

Another blow to Italian music-lovers following the burning of La Fenice theatre last week. Giandomenico Gavazzeni, the conductor and composer, who drew such extraordinary performances from the likes of Callas, Sutherland and Di Stefano during La Scala's golden years in the 1950s and 1960s, died on Monday at the age of 87.

Ding dong

While Hongkong Bank yesterday inaugurated Vietnam's first hole-in-the-wall cash dispenser in Ho Chi Minh City, some of the country's financial institutions appear to be less enamoured of the virtues of automation.

Star billing

Full marks to the manufacturer of the DocStar electronic filing system for making capital of the Clintons' Whitewater troubles. An ad in the US press yesterday

Financial Times

100 years ago

Life insurance Brazil has gone one better than Prussia in legislation apparently designed to drive out all foreign life insurance companies. According to the law passed in September last, every foreign company doing business in Brazil has to advertise in the public press every policy issued in the country, giving name, amount of premium and reserve.

50 years ago

Antidotes to inflation New York: The charge that certain public officials in Washington are deliberately fostering the "erroneous belief that the Stock Market is primarily the source of inflation" is made by Mr Emil Schram, president of the New York Stock Exchange.

Vertical text on the left margin containing various small notices and advertisements.



هذه امه الاصغر

FINANCIAL TIMES REVIEW

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Software at work

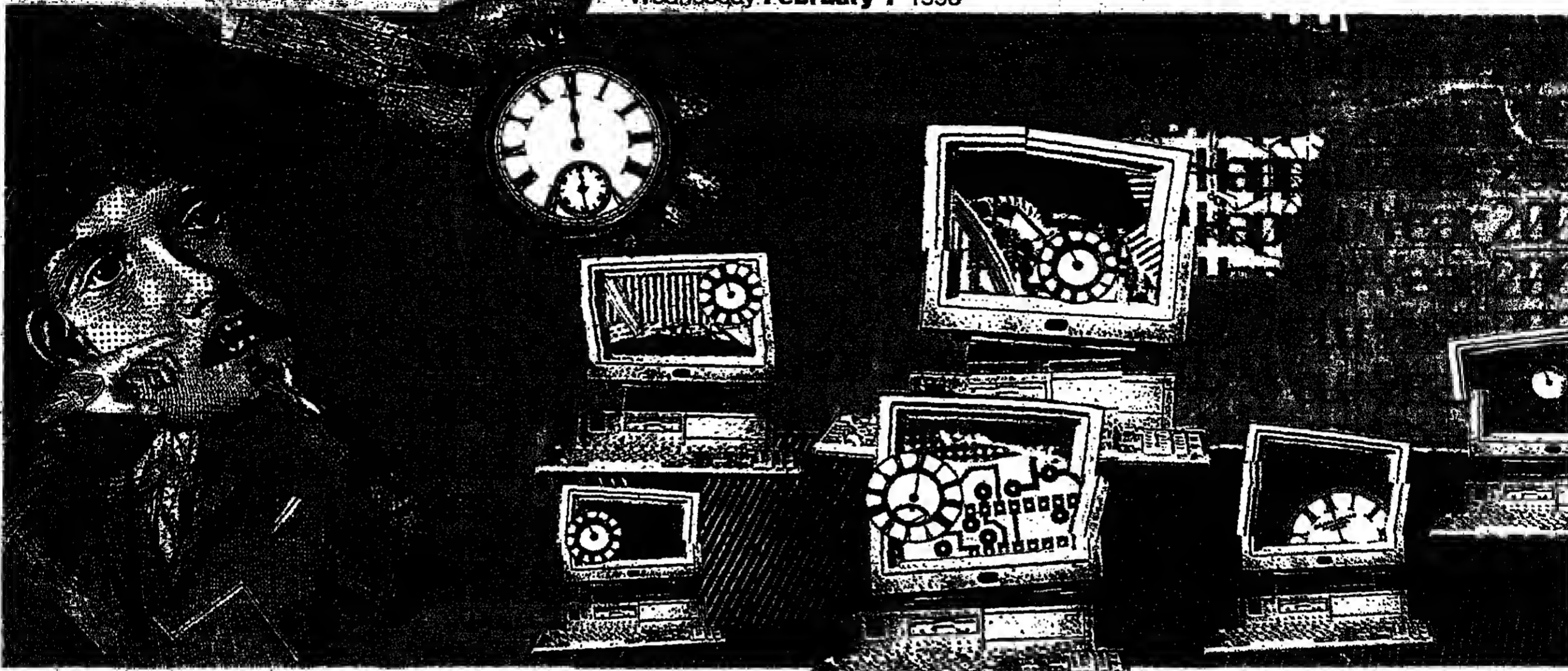
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Information Technology

Wednesday February 7 1996



Software timebomb ticks away

With the year 2000 just 47 months away, many businesses face serious and costly disruptions because of the way older computers calculate dates, writes Paul Taylor

Of all the challenges which the start of the next millennium will present for business and other organisations, few are as serious as the software timebomb ticking away within many computer systems. It is a worldwide problem, which at some estimates could cost up to \$600bn to solve. "The year 2000 poses one of the most significant challenges ever faced by the IT industry and it will have an enormous impact on business applications, package solutions and systems software, even putting some companies out of business," warns Kevin Schick of Gartner, the IT research and consultancy group. Yet, many companies are still unaware of the so-called Year 2000 problem, or they have chosen to ignore it, or believe that with 47 months still remaining of the twentieth century, there is still plenty of time to put things right. So what is all the fuss about? Most older computer programmes, particularly those that run on 'legacy' mainframe machines, store dates in the dd/mm/yy or mm/dd/yy format - using two rather than four digits to designate the year. As a result, they cannot distinguish between the year 1910 and 2010 - both of which would be identified by the double digit 50. At the same time, all date calculations are also affected. For example, a loan which starts in 1998 and ends in 2000 will be calculated as a minus 96-year loan instead of a four-year loan. "Many businesses will be affected by the Year 2000 problem long before December 1999," says Micro Focus, the mainframe software specialist. It has established a special Year 2000 team led by US-based Dwight Cornwall. Among the software applications which

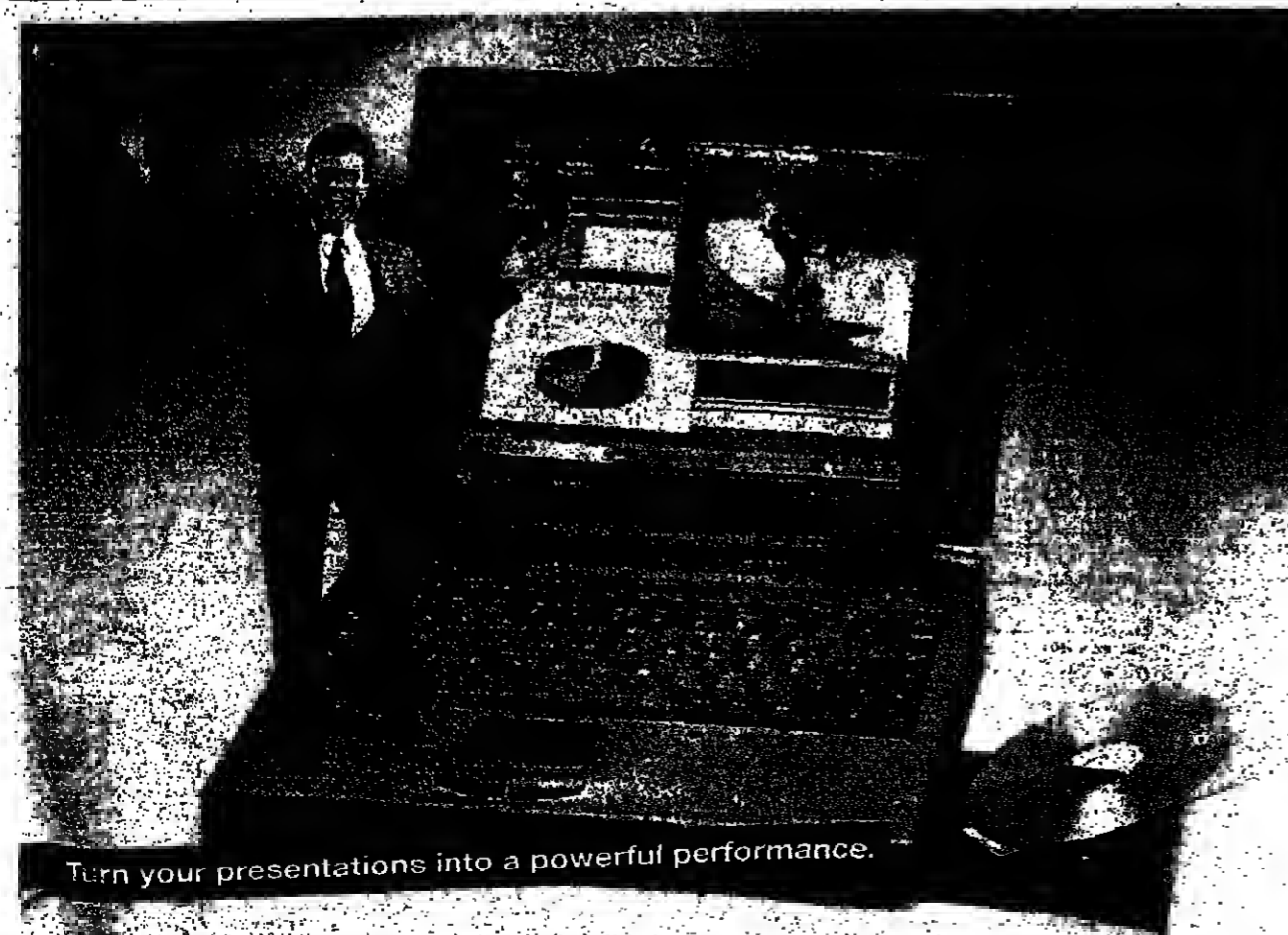
are likely to be affected will be those dealing with forecasting, loans, insurance policies, transport schedules, retirement benefits, as well as others which will either stop functioning or produce incorrect calculations without attention. Some software is also unable to cope with the fact that although the millennium is divisible by 100, it can also be divided by 400 and is, therefore, a leap year. Other issues include the use of the numbers 00 and 99 by programmers to indicate a null entry or the final record in a database. In the case of older personal computers, many will reset their internal clocks to January 1980 at midnight on December 31, 1999. If there were only a few isolated instances of problem dates or date calculations, the solution might be relatively simple. However, with millions of lines of computer code and complex interdependencies involved, it is an all-pervasive problem capable of causing disruption throughout an organisation and even beyond. The problem has arisen because of the limitations of early computer technology and the high cost of storing information when the first commercial computers came into use in the 1960s. At the time, not storing the extra two digits denoting the century was an enormous space-

saver - and thus a big cost-saver. Although the Year 2000 problem has been acknowledged since the 1980s - and some programmes written since then store dates in the full format - many of those in charge of corporate information technology systems have chosen to brush it under the carpet. By the end of 1997, Gartner expects less than 30 per cent to have achieved full Year 2000 compliance, a figure which still only rises to less than 50 per cent by the end of 1999. There are several reasons for this reluctance to come to grips with the issue. Firstly, it could be seen, to some extent at least, as a problem which IT professionals had brought upon themselves. Secondly, at a time when many companies were focusing on short-term business horizons, the end of the century seemed a long way away. Some IT directors may have thought, too, that they would have retired, or moved companies by then. Thirdly, correcting the problem will be very expensive and bring little if any other benefits. Asking the board for funds may as a result have appeared an unattractive proposition. "People seem to think the millennium issue will magically disappear, but in reality it is a basic computer problem requir-

ing a lot of surgery that must be understood, planned and addressed," says Ian Taylor, chairman of CMG, the computer services group. "A virus is simple compared to the millennium issue." Delay in dealing with the problem will probably add to the eventual cost of re-coding programmes, and in many cases is not an option anyway. Gartner, which has issued a series of research notes on the subject over the past 18 months, suggests that about 30 per cent of business applications would have failed last year without corrective measures, and that by 1999 this figure will have risen to more than 80 per cent. The high cost of solving the Year 2000 problem For a medium-sized company with about \$300 programmes which support business operations, Gartner estimates the cost of the Year 2000 crisis will be about \$450 to \$600 per programme or \$3.6m to \$4.2m for larger organisations Dun & Bradstreet Software has estimated the cost could be as high as \$100m. Much of the costs relate to programmers' time. It would take 24 people one year to implement a solution in the example above. Alternatively, 12 people using 'software tools' developed specifically for this

purpose, could be occupied for one year, in addition to any time needed to gain experience with the tools. "That assumes the company can afford to allocate staff away from other priorities," notes Gartner. In practice, many companies are turning to outside specialists to help them with the Year 2000 crisis. Hardware vendors such as IBM and Unisys, software companies such as Micro Focus, consulting firms, such as Andersen Consulting, and computer services companies, including CMG, Viasoft and Cap Gemini have all built up expertise in this area. Viasoft, a US-based software tools company, has developed a three-phase approach to the problem - assess, plan, execute - and these activities are grouped together into what the company terms a comprehensive solution, Enterprise 2000. Customers can sign up for the whole process, or just for those elements they wish to utilise. Viasoft worked with a client in the insurance and banking industry which had already been experiencing problems with the millennium issue. When Viasoft conducted its software audit, it discovered that from a portfolio of 10,000 mainframe programmes, 79 per cent of data items included references to date, and within this group three per cent required changing.

"Although three per cent may appear insignificant, in man-years the effort is most certainly not," says Stuart Watkinson, general manager of Viasoft in the UK. "It took 44 man years to correct the problem and ensure the code was millennium compliant. Because the available external resources are limited, if the problem isn't addressed at an early stage, there may not be anyone available with the appropriate knowledge later on. Indeed, most of the programmes affected by the Year 2000 problems are written in an ageing mainframe language called Cobol and although there are still a large number of Cobol programmers around, in the US the number is decreasing by about 1 per cent a year as programmers move towards more fashionable and modern languages. "As we approach the year 2000, the number of available Cobol programmers will decline quickly," warns Viasoft. "The time to start is now," says Watkinson. To reduce costs and help automate the process most specialists employ diagnostic and conversion tools - "there are more and more tools and toolkits available," says Elaine Eustace, CMG's Year 2000 specialist. Among the main suppliers are Viasoft, Micro Focus and Adpac. "To minimise their exposure to the Year 2000 crisis, IT departments must begin immediately to analyse their applications portfolios, assess the extent of the problem and begin budgeting, planning for and implementing the potentially extensive corrective measures that will be required," says Gartner. There are, Gartner's Schick points out, just three certainties in this work: "death, taxes - and the year 2000."



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By Paul Tuck  
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By John Kinnel

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# NEC





IT in government

The political impact of information technology

By Philip Manchester

How IT delivers more power to the people

'As citizens who have become more computer-literate, future populations are not going to be happy about handling government bureaucracy in the way they have in the past. They expect something better now'

Information technology has been a political hot potato since the mid-1960s when the UK's former prime minister Harold Wilson linked the future of Britain to the "white heat of technology".

Through the 1960s and 1970s, government initiatives aimed at promoting indigenous IT industries were a regular feature of political manifestos across the western world.

new forms of IT through the growth of microprocessors. Changed this dramatically. Most countries, for example, gave up any pretence at having their own chip-manufacturing capability and concentrated on areas where they had a historical presence.

together and the Internet gave us a way to break out of the hardware, attention has moved to software.

and sees current IT developments as a challenge both to government and to politicians: "For the first time, IT will empower people lower down the structure of government.



Andrew Miller, MP: 'IT will empower people lower down the structure of government'

the private sector so we are able to discuss IT issues against a background of what is really happening. We can then go back and advise our respective parties," he explains.

which uses IT to show how new technology may be used in government administration - "we're using a variety of technologies - such as Adobe Acrobat to exchange documents and Picturatel for video-conferencing."

International co-operation on IT issues is also growing as governments recognise that they all face similar problems in re-engineering their national IT infrastructures. Early last year, the G7 countries initiated several co-operative projects aimed at pooling IT experience in the context of government.

Examples also include the use of directory services to set up standard government directories with the X.500 standard which is sponsored by Canada and sharing information across departments, which is being led by the UK.

Lifting the lid on US politics

Stephen McGookin looks at what is called 'a voter's self-defense system'

Just as governments are increasingly using the Internet to distribute information - either purely factual or with their own particular "spin" - citizens' groups have just as expertly used the technology to let politicians know they do not have everything their own way, and keep tabs on their performance.

by subject or chronologically - along with links to how other Congressmen voted on specific issues.

There is also a performance evaluation by special interest groups, as well as the politician's responses to Vote Smart's own questionnaire, the National Political Awareness Test, if they are up for re-election in the last or current cycles.

Wider access

This, he adds, is partly the result of pressure from citizens who have become more computer-literate - "future populations are not going to be happy about handling government bureaucracy in the way they have in the past. They expect something better now."

Mr Richard Saook, UK managing director of the French computer giant Groupe Bull, says that politicians' attitude to the use of IT in government are changing: "Apart from strategic necessity, the emphasis is on the use of IT in government administration. Government departments are seeing IT as a way of doing things differently."

"I don't believe there is the political will at the ministerial level - but I believe it should be developed. It could lead to public services benefits at the local level so that cross-departmental issues can be handled more effectively and more sensitively," he says.

Mr Andrew Miller, Labour MP for Ellesmere Port and Neston, acknowledges the change

One of the most successful is Project Vote Smart, a way of electronically taking the lid off what is happening in the confusing and sometimes downright murky world of US politics. And that is exactly what the graphic on its World Wide Web home page ([www.vote-smart.org](http://www.vote-smart.org)) represents, with the slogan "It's time to look in on the hired hand."

In December, twelve out of fifteen Republicans seeking their party's presidential nomination agreed to submit answers to Vote Smart questions on a range of policy topics. Buchanan, Fletcher and Forbes were the "flunkies", while the responses of the others can be read at the Web site.

Although it is fiercely non-partisan, its new service Congress Track allows citizens to monitor specifically the activities of those Republican members who signed up to the "Contract with America" at the 1994 mid-term elections.

Financial data on the candidates is provided by the National Library on Finance in Politics, a non-partisan organisation which gets its information from the Federal Election Committee, to which candidates and PACs (political action committees) must, by law, report.

"The entire effort is aimed at providing tools to ensure public accountability by elected officials to those they represent," is how the project defines its mission; and its site is also a rich resource of related links to other news and political information - like Congressional Quarterly's Campaign Watch bulletins, as well as a guide to where you can cast your virtual vote and take part in online political discussions.

Although it is held in high esteem by political insiders, it is the incredible number of ordinary voters who are using the service that is the best testimony to its success and necessity.

One user left the following endorsement: "I am a divorced, unemployed mother of two small children. I think your project is wonderful and long overdue. I wish I could contribute, but I just can't afford to."

"PS. I have decided I can't afford not to."

US Congress members are listed alphabetically and state-by-state. What you get when you call up a Senator is a list of committees on which they sit, a list of their sources of campaign funding, details of their voting record - arranged

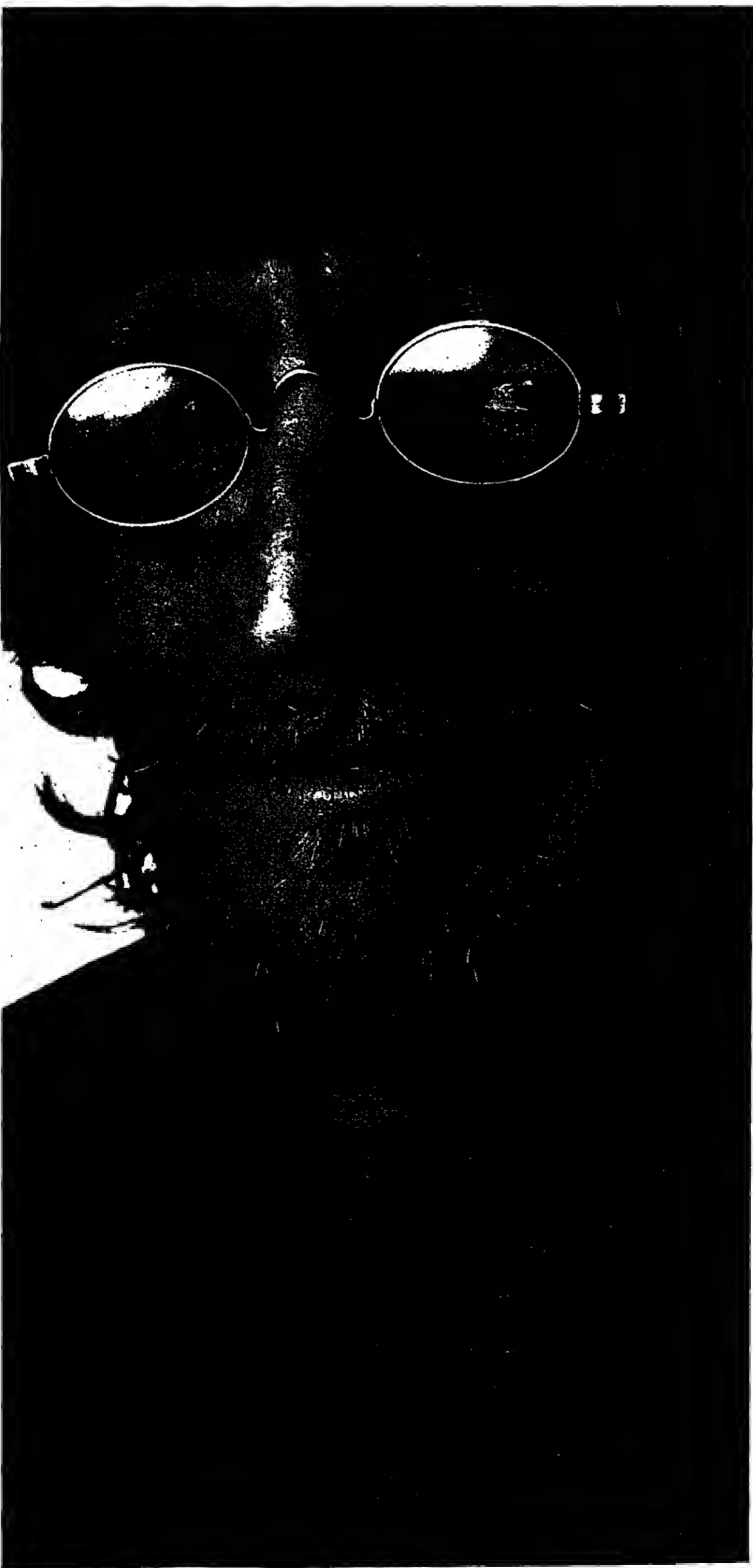
and the broader use of electronic mail. In Brussels, for example, Logica, the UK-based computer services group, is helping advisory committees and working groups improve their e-mail communications via the Interchange of Data between Administrations (Ida) programme, which aims to build a trans-European public administration network.

More generally, as the CCTA says in its latest annual report, "the development of new applications for IT, especially information superhighways, promises a revolution in public services over the next ten years. Services should become easier to use, quicker and better targeted."

But the Agency also adds: "Possibly the greatest challenge will be managing information so that it can be used in sensible ways. The mechanisms to achieve this must be built into plans for [government] IT... the superhighway is not here yet, but existing technology can do much to improve services - the challenge is to use it in a way which helps and empowers the citizen."

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Better public services

Continued from facing page:

with secure access to personal information stored on smart-cards, as well as government healthcare databases.

Governments are also beginning to adopt innovative approaches to IT management. In Britain, the Ministry of Defence has formed the first defence information systems agency, the Logistic Information Systems Agency (LISA), under Brigadier Alan Pollard, chief executive.

Formed out of the army's logistic IT directorate, LISA intends to sign partnership agreements with commercial companies to look for new business in other defence and government departments.

On both sides of the Atlantic, governments and public sector agencies have also discovered that the Internet can be a powerful tool for satisfying their commitment to open government and disseminating the vast stores of information which they hold.

They are also actively exploiting the potential of electronic commerce, for example through EDI ordering systems

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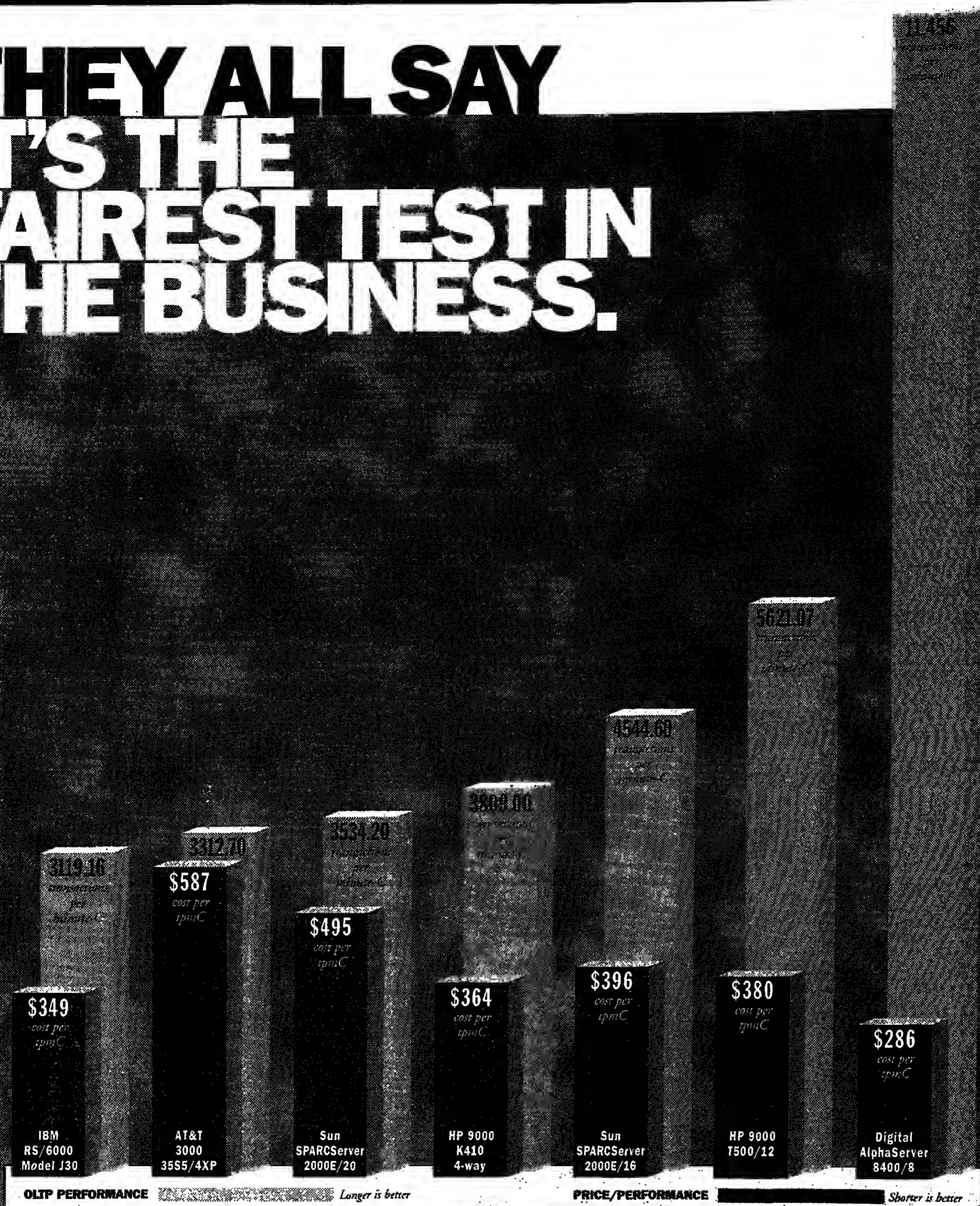
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مكتبات الكمبيوتر



Telemedicine

By Geoffrey Wheelwright

# Boon for rural areas

Computer technology and high-speed network links are changing the face of medical services in rural communities

The emerging science of 'telemicine' - using systems that combine personal computers, video-conferencing and high-speed data transmission - is now playing an important role in many small North American towns and lonely, country outposts. Telemicine uses techniques such as video-conferencing as well as patient and diagnostic information exchange via high-speed computer links to bring the expertise of large urban hospitals to bear on the medical problems of patients in outlying areas, without having to move the patients or send specialised doctors into the field. In the American state of Montana, for example, US West, a telecommunications service provider, has been testing one telemicine solution for the past two-and-a-half years.

A telemicine pilot project, known as the Eastern Montana Telemicine Network (EMTN), has been running since September 1993. It is designed primarily to give rural patients access to physicians, and rural physicians access to specialists. An important secondary goal was ongoing education for healthcare professionals and staff. It involves US West and five medical centres whose provider area covers 37,000 sq miles - with a population density of less than two people per sq mile.

The "hub" of the project (to which remote medical facilities can dial in) is at the Deaconess Medical Center in Billings, Montana. Rural users are medical and mental health care facilities in the eastern Montana communities of Culbertson, Sidney, Glendive and Miles City.

US West provides dedicated high-speed networking facilities to each site, connected in a daisy-chain fashion, with access to a 384 Kbps channel for video and another 384 Kbps channel for data. The system makes simultaneous video conferences possible - or allows for the transmission of data during a video conference.

Each site has installed a personal computer-based VTEL media conferencing system with two 27-inch monitors - as well as a camera that pans, tilts and zooms, and a document stand that allows the system to display anything from patient records and x-rays to three-dimensional objects.

US West says the system can be connected to any medical devices that use a standard video output - meaning that pathology slides, endoscopy videos, echocardiograms, electrocardiograms and a variety of other medical imaging can all be transmitted - allowing the more advanced facilities at the urban hub medical centre to do the analysis of the patient's test results.

The system also allows for multi-point video and audio

## Telemicine reduces the isolation of rural medical practice

conferencing (so that groups of doctors and specialists can confer about a case), and for what is called "time conferencing", which functions like a video version of e-mail. On a point-to-point basis, computer conferencing is also available, so that users at two different locations can work simultaneously on a document.

Mr Jim Reid, former director of the EMTN who is now an independent telemicine consultant with Billings-based Innovative Medical Communications, says that the system has taken some getting used to - "over 50 per cent of the patients surveyed said it wasn't the same as being there in person. But 100 per cent said they would prefer telemicine to travel."

Meanwhile, another set of telemicine trials are underway involving facilities on the west coast of the US. The University of Washington has linked doctors in Roman, Mon-

tana; Petersburg, Alaska; Driggs, Idaho and Colville, Washington so that they now have electronic access via interactive computer video to some of the top specialists in the main urban centre of Seattle, Washington.

Hospitals and clinics in each of these towns are part of this telemicine project with the university, which is designed to evaluate the potential benefit of telemicine consultations in the delivery of rural medical care. A grant from the Office of Rural Health Policy of the US Department of Human and Health Services funds the three-year project.

Medical consultations take place in locations equipped with desk-top computers and special devices to transmit live video and other images, such as x-rays and high resolution photographs. For example, a rural physician can circle a worrisome spot on an x-ray appearing on his or her computer screen and the circle will appear immediately on the same image on the University of Washington physician's screen in Seattle. The physicians can then see and talk with each other and the patient.

This project is designed to use the least expensive and least complicated technology possible to assure that the technology remains affordable for rural medical facilities. According to organisers, each telemicine station costs approximately \$13,000 for a basic set-up - with additional costs for extra accessories such as a film scanner and other special medical devices.

Another aim is that the system will provide support for rural physicians who often experience professional isolation, which leads to a high staff turnover in remote areas. But knowing that a consulting specialist is just a phone call away may be the type of support doctors alone in a rural practice need. According to Dr Thomas Norris, principal investigator for the University of Washington telemicine project, it could make a big difference for doctors and patients - "isolation is the enemy in rural practice. We hope telemicine can help alleviate it."



Using the multimedia network, experts in specific areas of surgery can now guide other surgeons through complex operations - without needing to be present in the operating theatre

## High-speed healthcare network

# Multimedia saves lives

Philip Manchester reports on the progress of SuperJanet

Leading-edge networking technology is taking UK healthcare into the 21st century. The SuperJanet network, first set up in 1993, provides high-speed multimedia networking to medical researchers and practitioners across Britain.

Funded by the Universities' Funding Council, SuperJanet evolved from the Joint Academic Network (Janet) which operated on an earlier generation of networking technology. SuperJanet uses a high-speed networking technology called asynchronous transfer mode (ATM) to provide the bandwidth capacity needed for multimedia applications, such as video-conferencing. The network runs on leased lines from BT using ATM switching hardware from General DataComm.

SuperJanet allows, for example, students to watch skilled surgeons perform 'live' operations over the network. Students and researchers can also use the network for video-conferencing and to view rare

manuscripts and academic papers held in university libraries, via a desktop computer. "The important thing about ATM is that it gives you the ability to run a multi-service network. It's essential for the sort of application we are running because you have to be able to separate traffic," says Mr John Dyer, technology manager at the UK Education and Research Networking Association (UKERNA).

"We now have 15 sites connected to SuperJanet which can all participate in both data and video services. The video service is full motion, full frame - which is important so we can get the image quality." Six of the sites are regularly involved in the most ambitious aspect of the service which gives students access to surgical teaching. Standard audio visual equipment in operating theatres feeds through to a coder/decoder (codec) connected to the ATM network. There are plans to use SuperJanet as a way of allowing consultants to advise on surgery remotely. An expert in a specific area of surgery could, for example, guide a surgeon through a difficult operation without needing to

Continued on facing page

## Injury claims processing

By John Madsen

# Danish trailblazers

New case records system eradicates paperwork delays

Denmark's Industrial Injuries Board receives 330,000 letters a year - yet it is aiming to become a paperless office by 1997. This project will include document imaging, work-flow systems and electronic data interchange and allow staff to work from home. At the same time it will enable staff to take greater responsibility for cases, increasing their job satisfaction.

The Industrial Injuries Board, an agency of the Ministry of Social Affairs, handles compensation for industrial accidents, work-related illnesses and victims of Nazi occupation from 1940-45. It also advises courts in private insurance cases.

The statistics surrounding the board's activities make the paperless office seem an impossible dream. Its 300 staff get 46,000 new cases a year, receive 1,300 letters a day and send out around 1,500 - amounting to at least 375,000 a year.

The board took a big yet relatively simple step in 1992 by linking its chosen word processing software, Wordperfect, to its case records system.

This has cut the separate keying of the same information into two systems. "The letters always contain information which is found in the case system, such as names and addresses, details of employers and insurance companies and information on injury dates and diagnoses," says Anne Madsen, the board's deputy director-general.

"Writing, compensation calculation and recording are now done in a single, automatic process."

"The case worker enters the file number and the code of the standard letter to be sent. An individual comment can be added to the letter if necessary. The system prints the letter and updates the case information; for example if the letter is to inform someone of a decision, the case record will be updated with the type of decision."

compensation, the system calculates the amount, inserts it in the letter and, again, updates the case record.

"All this means it is easy to get a quick overview of an entire case, including all the outgoing correspondence, through a single enquiry."

The system links overnight to the national citizens register to update the central records with any changes of address.

This 1992 development has already had considerable impact. In effect all the tasks which have now been automated were previously done by separate teams: there were staff entering data to the case records system, others word processing letters and a third group handling calculations, in addition to the professional case workers.

Automation cut the need for staff but instead of making half of them redundant the board chose to retrain them to take



Anne Madsen: her staff send out 375,000 letters a year

more responsibility and to improve service.

"We work under contract to the Ministry of Social Affairs and part of the contract is to constantly seek to improve quality," Mrs Madsen says.

"We have surveyed 2,500 direct clients and 300 organisations, such as unions and insurance companies, on their expectations and have set performance targets. For example, letters acknowledging receipt of a claim are sent within five days."

"Technology plays a part here, too; for example we produce weekly information on the numbers and quality of cases processed."

The board is now moving toward a paperless office by introducing still more technology. It is working with computer company Unisys on several projects at once.

One key aim is to stop physically handling 'masses' of letters. A pilot project is under way here on document imaging to store incoming letters as images. Letters are barcoded with reference details for automatic storage to and retrieval from the correct case files.

An associated work flow project has been set up to identify further efficiency measures and changes to procedures. These projects are based on Unisys Unix computers and a Novell PC network.

The board is also looking at extending these systems to people's homes to support teleworking. This would not be every day but would enable staff to work from home for two or three days a week if they wished.

Meanwhile, telecommunication is being extended to the outside world, typically through electronic data interchange (EDI): the automated exchange of documents in standard formats between computers.

This is generally associated with the transfer of orders and invoices between companies but it is also used for exchanges between public bodies. The board is using it to communicate with hospitals, insurance companies and local authorities to request and receive standard information.

As the document imaging project progresses it will also send images of past correspondence to insurance companies electronically.

Electronic communication could even be extended to individuals; Mrs Madsen points out that well over 60 per cent of homes in Denmark have PCs.

All these developments are in line with the Danish government's Information Society 2000 project, which grew out of a 1994 study commissioned by the relatively new Ministry for Research and IT.

"We want to be trailblazers in the Information Society 2000 project - and we intend to reach our paperless office target by 1997," says Mrs Madsen.

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مركزنا للأعمال



Alliances on the Information Superhighway

By Geoffrey Wheelwright

Connecting the classrooms

US government acts as a catalyst to achieve private sector partnerships in education

A great deal has been written about the potential advantages for individuals and industry of teleworking...

ics, Applied Materials, TCI and Cisco Systems. "Our administration has brought these companies together, we have set goals, but they are doing the rest," explained the president.

High-tech goals will not be achieved by the government alone, says President Clinton

access to computers learn faster and learn better. Children mastered basic skills in 30 per cent less time than would normally have been the case.

Government contracts: Problems for Italian IT suppliers

Hard lessons from the past

Investigations into bribe scandals paralysed the government's IT procurement process

The early years of this decade saw what amounted to a revolution in Italian political life, triggered off by zealous anti-corruption magistrates.

was the norm. It is estimated that four million people were involved in the payment or receipt of bribes amounting to £2.25bn every year.

£1m worth of systems to a prime candidate for such business, the Ministry for Postal Services. But once it bowed to a corrupt system, Olivetti saw sales to this ministry soar to £260m between 1988 and 1991.

aspects of technical assessment. It oversees the security standards of potential purchases and advises all government departments.

National Geospatial Database

By Max Glaskin

The ultimate map project

A centralised geographic data base offers valuable services to planners

If anything can help a stranger in Britain to explore an undulating landscape, it is an Ordnance Survey map. So it is appropriate that the OS organisation should be suggesting a route for central and local government to follow in order to make their terabytes of data more valuable.

house and street name is not the same as a National Grid reference so it becomes hard to use two data sets together. The OS is promoting the need for a National Geospatial Database (NGD) in which all the different data sets have geographical descriptors in a standardised format.

begins to accumulate information, fears of Big Brother grow, but the OS is quick to scupper them. "The NGD is not seen as a single, all-embracing collection of data sets held in one massive computer system. It is seen as being a 'virtual database'.

Fears of 'Big Brother' have been quickly scuppered

There is an OS-run system in place already which should eventually become part of a much larger NGD. The Spatial Information Enquiry Service (SINES) has been running for two years, on behalf of the Department of the Environment, answering queries by post, phone and fax.

through e-mail and the World Wide Web. SINES provides details about more than 500 data sets held by government departments throughout the UK.

Quality information, increasingly quantitative, will allow rational selection of data sets with links to transfer - and invoicing - systems. The contents of the SINES metadata base will need to be expanded and updated more frequently. It is essential that the 'one stop shop' happens if our vision of the National Geospatial Database is to succeed.

By Michael Dempsey



After the shocks, suppliers are more confident now. Above: computers being checked at Olivetti's plant at Scarmagno

French computer company Bull, speaks about the new regime. "My feeling is that we have not really seen a revolution [or], an earthquake. But

there has been a real change in terms of discipline. Now we have a lot of controls on every contract." The certainties that the

arrival of AIPA has created makes Mamoli's world a better place to do business.

Bull has recently signed a number of government contracts in Italy, including the supply of a large network of desktop workstations for the customs division of the Finance Ministry. The contract, worth more than £2.5m, includes 1,750 PCs backed up by 217 larger processing units. IBM employs 1,100 staff in Italy, contributing to social security and central and local government systems.

scandal was severe. Officials were in a state of shock in many areas of public administration. Nobody was able to take decisions. Mr. Ragni makes a wry observation on the extent of that crisis: "The Italian people can always manage a difficult situation. But this was exceptional."

Francesco Valdevieso, a Unisys executive, works with 500 colleagues in Italy. He echoes IBM's Ragni in his reservations about AIPA, noting that it has 200 staff to handle the entire IT sector and often takes too much time to reach decisions. But Unisys is doing business with the new cleaned-up procurement body. It has begun managing IT for the Justice Ministry on a contract worth about \$4m a year. Valdevieso is optimistic that Italian state IT is on an upward curve, with hard lessons learned from the chaos of the past.

SOFTWARE AND IT SERVICES MARKET

A grid of 15 numbered advertisements for various IT and software companies, including JBA, FaxBack Limited, Systems Union Limited, KAI Computer Services Ltd, Visual Image Dynamics, Icom Solutions Limited, Comshare, DB World, Movex (UK) Limited, Lawson Software, and UK ITSEC Scheme. Each ad includes company name, address, contact info, and a brief description of services.

مكتبة النخيل





Enterprise intelligence systems: Data access and reporting tools

By Clive Gorman

# Reward offered for inside information

Employees want computers to help deliver insights, not just mere numbers

Enterprise intelligence systems, EIS - now rechristened since their first outing as executive information systems - exist so that business users can get their own insight from manipulating the facts and figures.

The old-style EIS presumed that the view from the top needs more insight than anyone else's, and more help getting it. That is a dangerous assumption, according to Mr Nigel Pendse, principal of consultancy OLAP solutions, and co-author of the OLAP (Online Analytical Processing) report by Business Intelligence of Wimbledon.

"EIS for executives was discredited for two reasons," says Mr Pendse. "It was based on the hypothesis that if senior executives had access to data, they would do their jobs better. It was flawed, because that's not how they spend their time - and they tend to rely on people and opinions, not facts and figures."

"Even if true, the double problem was overcoming the technology: the IT people thought a lack of keyboard skills indicated a lack of intelligence, and produced what I call 'patronising' systems."

Hence, argues Mr Pendse, the change from E for Executive to Enterprise or Everyone's in the acronym, EIS. Once the scale changed, from a few users in the boardroom to hundreds of potential users, the EIS price-tag also became unrealistic for a simple information system.

"Eventually the penny dropped that hand-crafting elaborate screen displays was a waste of time; screen displays were not an issue for the people who turned out to be the real users, whether executive or otherwise. The emphasis changed to getting hold of the data," adds Mr Pendse.

"Data turned out to be the real issue: getting hold of it and making it consistent, and delivering it to the right people. The key is automating that entire process," he says.



## Software at Work

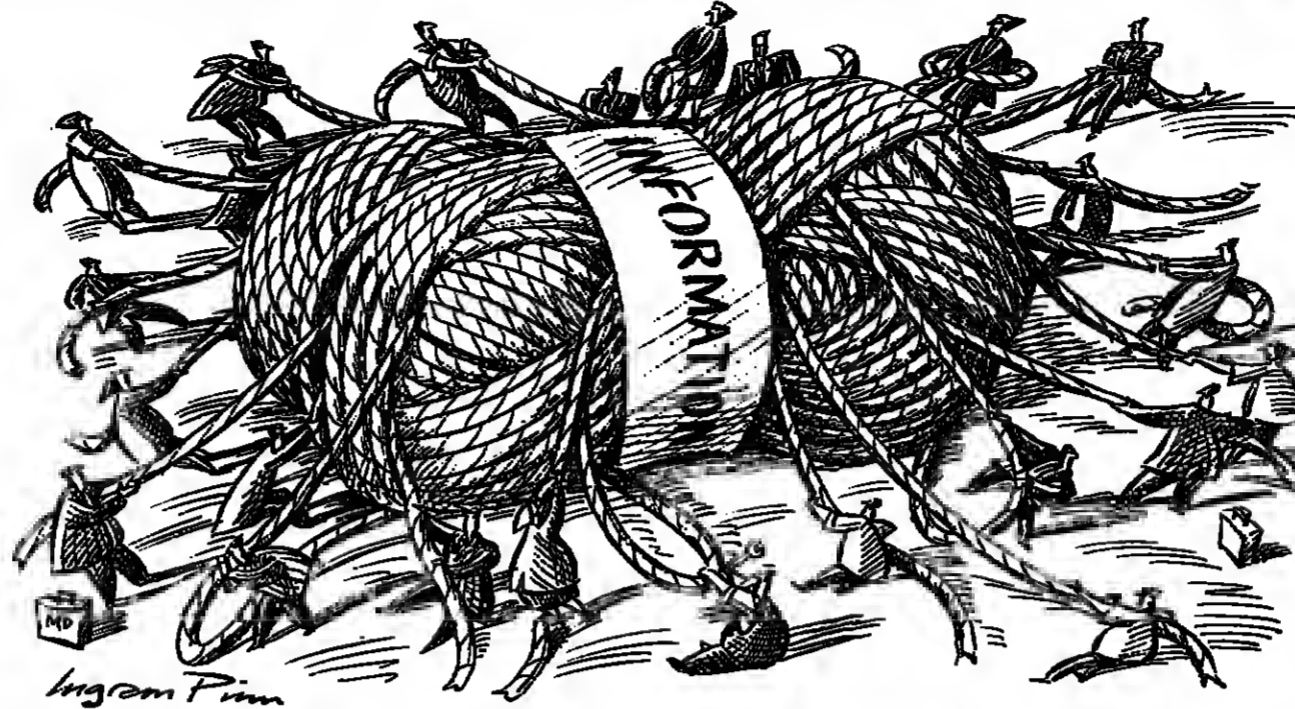
How enterprise intelligence systems help to identify new business opportunities

The trouble with historical data, he adds, is that the company structure will certainly have changed, and the level of historical detail available may not be adequate to re-state the history in a form compatible with the current structure.

The new-wave merchants of "data warehousing" tools have certainly seized on data cleansing as a significant activity. Mr Ram Srinivasan, product director at Los Gatos-based Red Brick Systems, identifies five distinct components of analysis access and reporting - "users need to get data out of operational systems, cleanse, scrub, reconcile it. The business user accessing the data warehouse and asking ad-hoc one-off queries is at the other end of the process."

Red Brick participates in the middle, grasping that data and loading it into the data warehouse database in an overnight window - "an example might be a drug store, updating the day's Epos (electronic point-of-sale) transactions. We help manage data and provide connectivity".

Whereas the old-style EIS systems were delivered to consumers, the data warehouse



approach is to provide users with a query tool which allows them to do it themselves.

In the opinion of Mr Pendse, the difficulty is getting the balance right between tools for experienced computer users,

and giving novice users access to a simple tool - "some of the vendors got it wrong by making it too complicated, and others got it right by pitching it as a simple level, suited to an enormous market. In my opinion, Arbor got it right, so did TM/1 from Simper Corp, and Cognos with PowerPlay, which now has over 100,000 users".

Cognos, he says, has won a larger market by keeping it simple - without being trivial

- whereas Holo, from holistic, "is labour-intensive to build, but it builds excellent systems. The holistic approach is to have lots of features. Cognos is to keep it simple".

### Data analysis: Towards the information suite

## New ways to extract key business data

Companies need more software tools to cope with increasing volumes of information. They may even get them in suites

As competition becomes more intense, the amount of information available is increasing dramatically. Organisations are going to need to analyse and exploit larger volumes of information more effectively than their competitors.

Users may already have Enterprise Information Systems (EIS), On-Line Analytical Processing (OLAP) servers, data warehouses and query tools to provide them with business intelligence, but these are not going to be enough. OLAP servers provide an

interactive multi-dimensional view of data, using powerful analytical functions and can be accessed by a variety of tools, including spreadsheets and EIS.

A whole range of information tools already exist in specialist areas and they are going to be used more widely in conjunction with existing tools. These will include data mapping, data visualisation, data mining, neural networks, intelligent agents, text search, business rules and others.

Desktop mapping software provides a graphical view of

data, superimposed upon a digital map.

Microsoft says that 90 per cent of corporate data already has a geographical dimension, such as an address or telephone number. This can be converted to latitude and longitude which can now be stored by relational databases.

This, in turn, allows users to explore the business environment geographically, comparing data in relation and proximity.

All this can bring a new vision to the underlying data. It allows users to find new

information, such as how many customer-sites are within a hundred miles of a factory. Integrating external demographic data can show such information as local market sizes and penetration.

Data visualisation tools provide a three dimensional graphical representation of corporate data, showing relationships and relative sizes. Users are able to navigate through a three-dimensional view of their data by steering with a mouse. This shows vertical histograms and lines which show linkages to further analysis.

By following the linkages, data visualisation makes it

and powerful is no easy act. SAS institute, whose SAS System is one of the most sophisticated analysis tools available, has just launched a financial modelling suite aimed at achieving the right balance.

Its previous EIS suite was dismissed by Mr Pendse as being for "idiots or programmers - with nothing in between". The new approach guarantees a robust application, which will nevertheless allow the user to cruise for information and refine queries in the process known as "data mining".

Another interesting development has been the addition of "EIS-like" extensions to accounting suites, such as D&B's Smartstream and Tetra's Chameleon CS3 and Legend products.

Mr Tom McDonagh, product marketing manager for Smartstream, says that decision support, OLAP, and EIS-like facilities were central to the Smartstream strategy.

"We were criticised for being slow to market with client-server solutions, but we did it right because we built a common architecture, and we built workflow into Smartstream from the start: that's a hand-wagon others are now keen to jump on."

"The common applications architecture we use supports all the core processes, but the desktop interface integrates images with text, spreadsheets, and all other components of business processes."

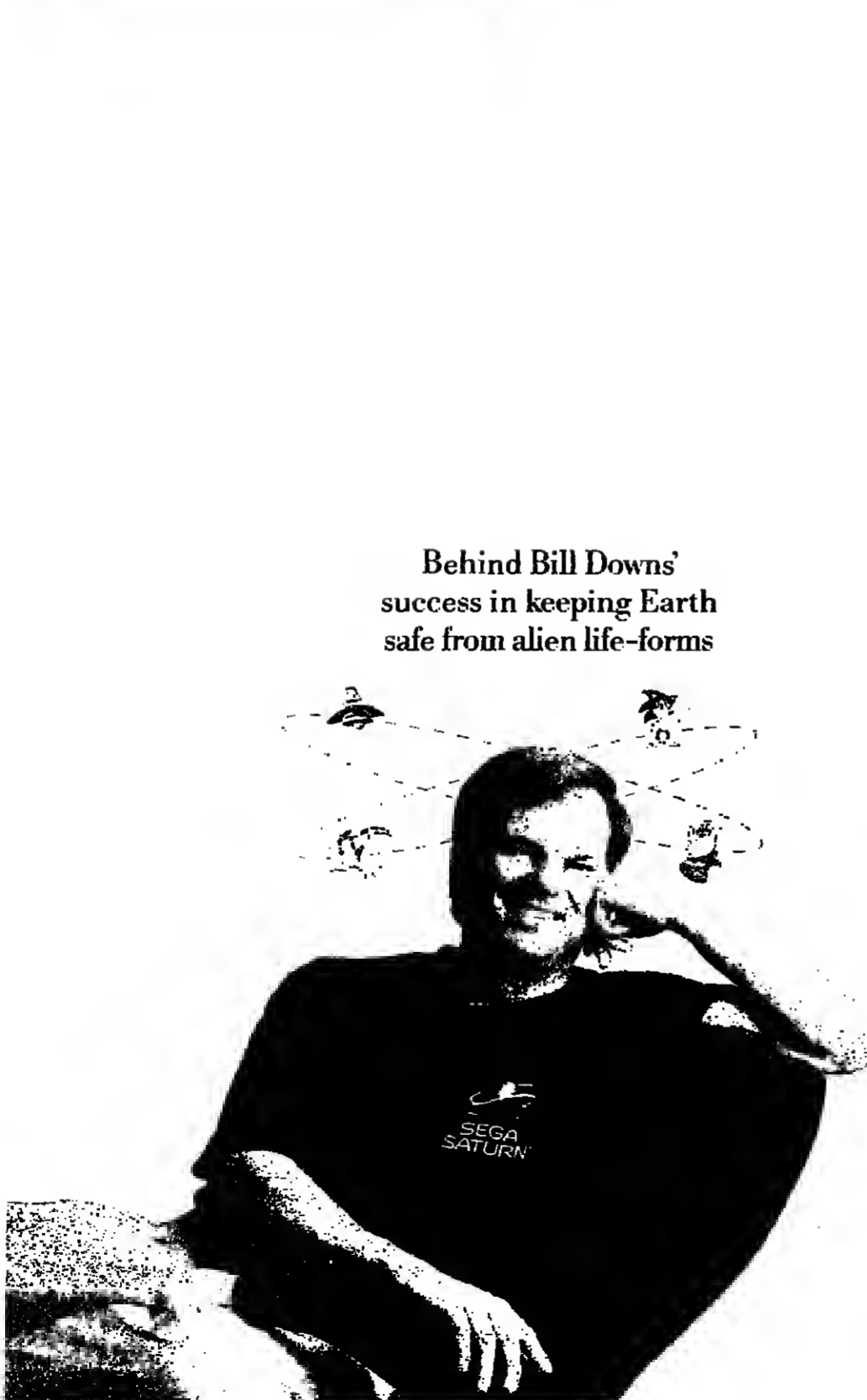
This last idea, of introducing an element of sharing and distribution of the data, could not be further from the original exclusivity of the EIS. Yet it has retained the elements of disparate sources, and different formats.

It is this ability to give the full overview that makes the data warehouse so alluring: a consolidation of data from different sources, with powerful search and retrieval tools which allow the user to travel and explore correlations.

"Business and IT are really acting as one through the data warehouse, which is why it has caught on so fast," concludes Mr Ram Srinivasan. "Management systems allowed people to automate activities in isolation, creating islands of efficiency. This approach turns the picture upside down, connecting those activities so you can look at the situation from the customer's point of view. It changes the basis of competition, so that IT has a wider role in identifying new business opportunities."

By Rod Newing

An AS/400 Advanced Series Solution



Behind Bill Downs' success in keeping Earth safe from alien life-forms



is a client/server network that sends sales data throughout the Sega empire instantly

and the ability to add more power at a moment's notice.



He was also the first at Sega to see that AS/400 Advanced Series could do all this with lower administrative costs than other platforms.

When your business grows from zero pounds to seven hundred and fifty million pounds in five years, choosing a client/server system that can keep up with the growth is pretty important.

It is this that Bill Downs of Sega has found with AS/400 Advanced Series.

"In five years, we probably would have had two or three different business systems if we had started with something that didn't scale as easily as AS/400," says Bill. "None of us had the idea we would grow as fast as we did."

Bill has his AS/400 Advanced Series running the entire business. He's using it to process orders and schedule delivery to 20,000 retail stores overnight. He has his company's PCs, Apple Macs and Silicon Graphics workstations running off it. And his AS/400 Advanced Series does all this with a technology budget of less than two-tenths of one per cent of revenue, and with minimal support staff.

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Network security and data protection

By Tom Foremski in Forestville, California

# The never-ending journey

While computer networks continue to transform the way companies work, "the issue of network security is not a one-time event - it is a journey for ever," says a systems expert

As companies increase their use of networks internally and establish links to the Internet and other external networks, the problems of securing their systems and data rise enormously - and there is no easy solution.

Each time a company adds a local area network, or a gateway to the Internet, or adopts the popular distributed client/server model of computing, it increases the security risk because there are more potential areas of access to sensitive information. These risks come not only from outside the company in the form of hackers, but also from within the organisation, from curious or disgruntled employees.

One of the biggest security problems in this area, has been the fact that few business managers have recognised the security risks or taken them seriously. Yet the number of security problems has increased dramatically over the past few years, helping to prod users and the computer industry to develop and deploy more robust security measures.

The results of a survey of 1,200 information system managers, conducted by Ernst & Young late last year, show that the security message is getting through but there is still a lot of education on the issues to be done. Almost half of those taking part in the survey said that their company had experienced security problems that resulted in a financial loss. For about 20 companies, the financial loss was at least \$1m.

About 40 per cent of the survey respondents said that senior management awareness of the security problems was a key obstacle to better security procedures.

"Information technology and the use of networks is causing a renaissance in the way companies conduct business but this means that business people have to realise that protecting information assets is often more important than protecting physical assets," says Fred Jones, director of information security services at systems integrator Electronic Data Systems.

Kathleen Kincaid, director of IT Security Programs at IBM,

says that the media has helped to raise awareness of security problems - "there has been a lot written about security risks and the Internet for example, which has led to people calling us and asking if they might have a security problem."

But many companies start looking for security solutions only if they have had a problem themselves or have heard of a company in the same business that has problems. Mr Jones, at EDS, points out that it is difficult to add-on security to an existing information system. Security must be considered as an integral part of the re-engineering process to be the most effective.

Even in organisations where securing networks is a priority, there are many issues that have to be addressed and the solution can be complicated with many levels of options available - "there is the security of the physical transmission, security at the logical layer, and perhaps an application layer. What I've found is that at each layer people want to secure that layer. And within each layer, there are

different alternatives for transmitting information securely," explains Ms Kincaid.

Encryption technologies and public key/private key mechanisms provide good security but there are many different ways to apply them to different parts of the information system, further complicating the issue.

The good and bad news is that awareness of security on networks is much higher and most computer companies have added security features to their software and hardware products. The bad news is that it is difficult to make all the different parts work well together.

"There is a lot of overlap and holes in the system security when using different products. It can be a real hodge-podge trying to make it all work well together," says Jones. "What is needed is the establishment of key security standards and these have to be done on a global scale."

Jones adds that while there is work being done by industry consortia on various security

standards, progress is slow. Firewalls are a key method of securing networks and there are many new products on the market. Firewalls are hardware and software systems that monitor network traffic and will block network data from coming in or out, based on various criteria, such as sender ID or type of data.

But firewalls are complex to set up - for small companies with little in-house expertise, outsourcing such security measures is often the best solution.

The ideal solution is for security to become a "transparent" application - "security should not hinder the user," points out Mr Jones. "But it is vitally important that the user must be made aware of why the security is there. Staff education is a very important part of any company's security procedures."

Some products, such as the groupware software Notes, from Lotus Development, offer users a simple option to encrypt data by checking a box. Some security systems require users to memorise a list of passwords for different

applications. Passwords work well but they can also easily become a key weakness in a security system. Often, users do not change them regularly, or they use simple and obvious passwords such as their birth date or the name of relatives. Passwords are sometimes even posted near computers.

Encryption technologies lie at the heart of many security measures. These use powerful mathematical operations that make it virtually impossible for an eavesdropper to decode an encrypted message on a network. IBM's Data Encryption Standard and RSA Data Security's public key encryption technology are good examples of reliable and secure encryption technologies.

But the US government limits the use of powerful encryption technologies on the basis that it will make it more difficult for law enforcement agencies to monitor criminal activities.

For example, it is illegal to export certain encryption technologies abroad - a key problem for multinational companies which are unable to use the same encryption technology across their entire enterprise.

The issue of securing networks is also one that is never solved completely. Ms Kincaid makes the point that "security is not a one-time event - it is a journey for ever."



Dealers on the Hong Kong Stock Exchange: security is becoming vital in the financial world, where 'firewalls' are a key method of securing networks. Firewalls are hardware and software systems that monitor network traffic and will block network data from coming in or out, based on various criteria, such as a sender's ID or type of data

## Global network service Lotus is first to use BT's new public servers

British Telecom has just set up a global public server service in partnership with Hewlett Packard, writes Rod Newing. British Telecom's global communications network will allow it to provide a wide area network service. Hewlett Packard will provide BT with the servers, together with services and expertise, from a "server farm" in Bristol. This will start with between 10 and 20 HP9000 servers, with more being added as demand increases.

Lotus Development Corporation, an IBM subsidiary, was a key participant in establishing the new service which is being launched this month.

This move is part of its strategy to extend the sharing of information between companies and individuals through Lotus Notes Public Network Service. The facility is a special version of Lotus Notes designed to meet the scalability, reliability and administration requirements of public networks, including billing services.

### Applications

Organisations will be able to support business processes using BT's global network to integrate with suppliers and customers around the world, using applications located on the public servers.

A single connection to the BT servers means that organisations will no longer need to set up a wide area network within their organisation and with their customers and suppliers. This will reduce the cost of setting up applications and infrastructure for user organisations.

The number of Lotus Notes users is growing rapidly, doubling in the past six months to 4.5m. They can access the servers by point-to-point connections, such as ISDN, the Internet or from cellular telephones. Notes security is available for each method. The applications can also be designed to be accessed by any Internet browser. Lotus Notes applications on the server will allow

organisations to communicate with customers using data, images, voice, sound, video and other communications formats.

For Lotus, the deal follows similar arrangements with AT&T, CompuServe, Deutch Telekom, IBM, Nippon Telegraph and Telephone, NTT Data, SNET, Telstra, Telecom Italia, Telekom Malaysia, Uti source and US West, together accounting for 80 per cent of global data communications traffic.

### Competition

By using Lotus Notes, each network will be able to communicate with the others. This is part of a Lotus plan to build a world-wide interoperable network of public networks, linked to the Internet. BT is also carrying out a trial for a similar service in Australia.

Carriers face competition from new entrants, cable operators and the Internet, causing long-distance and international communications to become a commodity.

Public networks provide them with new value added services to offer customers in order to maintain their revenue. Organisations are charged rental for their applications on the servers and users are charged for access. Lotus will participate in this revenue.

Lotus has beaten Novell, who has similar aims with its Smart Global Network, but BT admits that the Lotus deal is the first of many.

When Oracle and Sun talk about "downloading applets" from the server to their network appliances, BT will have one of the main potential sources for software.

The next issue of the FT-IT Review on Wednesday, March 8 will feature converging technologies in IT and communications, together with directions in network management.

For more information on key themes in future issues, there is a new FT-IT Fax-Back service: see Page 2 of this issue for details.

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The Financial Times Review of Information Technology is published ten times a year: February - July and September - December, inclusive. Issues appear with copies of the Financial Times on the first Wednesday of each month. Post subscriptions are delivered as soon as possible after this date.

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# Now That We're Merging, We Can Simply Do It From Across The Hall.

*Left to right: Ed Miller, President - Chemical Banking Corp.  
Michel Kruse, Vice Chairman/Global Financial Services - Chase Manhattan Corp.  
Walter Shipley, Chairman/CEO - Chemical Banking Corp.  
Tom Labrecque, Chairman/CEO - Chase Manhattan Corp.  
Bill Harrison, Vice Chairman/Global Wholesale Banking - Chemical Banking Corp.*

Chase and Chemical have long envied each other's capabilities. But through it all, there was one trait we both shared: exceptional client focus. That's why our agreed merger is more than just combining our capabilities. It's an integration of our abilities to deliver the best solutions. An integration of people and ideas. It's a leveraging of our leadership positions to identify new opportunities for your business. It's teamwork across all lines of business to solve your individual needs. Whether those needs are on the other side of the street, the other side of the country or the other side of the world.



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EUROPEAN NEWS DIGEST

Adam Opel upbeat after rise for year

Adam Opel, the German carmaker owned by General Motors of the US, lifted net profits for last year above the DM307m (\$292m) earned in 1994...

Air may launch first jet

The three European companies which make up the Aero International Regional (Air) aircraft venture are considering launching their first jet...

Ferfin, Montedison advance

Ferruzzi Finanziaria (Ferfin) and Montedison, the linked Italian holding companies which returned to net profit in the first half of 1995...

Cofir, the Madrid-based holding company controlled by Italian financier Mr Carlo De Benedetti, has increased by Pt1bn (\$8m) the capital of Degussa...

CORRECTION

Jürgen Schrempf

A picture in yesterday's edition labelled as Mr Jürgen Schrempf, Daimler-Benz chairman, was not Mr Schrempf. We apologise for this error.

Record demand helps Repsol issue realise \$1.1bn

Warm reception for Spanish oil, gas and chemicals company augurs well for coming global offer for shares in Argentina

The placement of shares in Repsol, Spain's oil, gas and chemicals group, has broken all Spanish records for demand...

retail investors who had bid for Pt10m-worth are likely to end up with only 5 per cent of what they had sought.

Analysts said despite the difference between the highly-prized Repsol stock and that of Argentina, they expected a knock-on effect from the Repsol placement that would lift demand for Argentina.

Hungary oil group in trading row with subsidiary

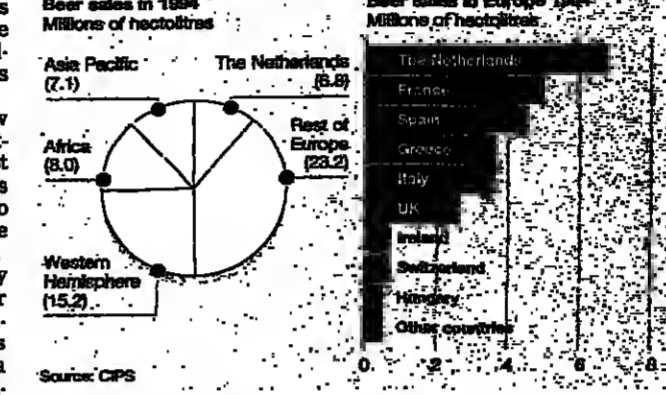
By Kester Eddy in Budapest

Sales and profits at Mineralimpex, the former Hungarian state oil and gas import and export company owned by Mol...

Heineken finds strong global brew

Dutch group's export business is highly profitable, writes Roderick Oram

Dive into the curious case of Heineken's Japanese beer cans and you learn a lot about the Dutch brewer's global ambitions...



Beer sales in 1994. Millions of hectolitres.

year, Mr Wakely estimates. The Dutch brewer spends, for example, about \$5 a barrel on advertising in the US...

the guild to the US dollar. "We can live with F1.50 to one dollar and we are very happy at F1.80..."

Heineken and Whitbread, its UK licensee, are addressing the problem with the 5 per cent export beer, which is the same strength as sold elsewhere in the world...

This announcement appears as a matter of record only.

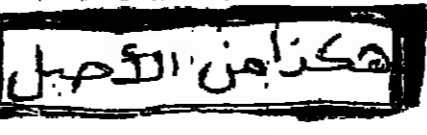
Südwestdeutsche Landesbank Capital Markets plc advertisement for DM 500,000,000 bonds, listing various institutional investors like UBS, Deutsche Morgan Grenfell, and SBC Warburg.

IBM to get payout from German unit advertisement featuring a photo of a person and text about restructuring costs and employee numbers.

Weak December holds back Degussa advertisement with a line graph showing share price relative to the DAX index from 1985 to 1996.

IBM to get payout from German unit advertisement with text about restructuring costs and employee numbers.

Vertical text on the right edge of the page, including 'Phil... cars... enjoy... prof...'









## BUSINESS AND THE ENVIRONMENT

## Basis for a building

Designers of a building intended as a model for low energy and "environmentally aware" offices of the next century are taking their philosophy right down to the foundations.

Crushed concrete from a 12-storey office block being demolished in central London is being used in the Energy Efficient Office of the Future, under construction at the Building Research Establishment's Garston site in Hertfordshire.

In what is said to be the first use in the UK of recycled aggregates in ready mixed concrete, the material from the old bank building is being used as coarse aggregate in more than 1,000 cu m of concrete supplied for foundations, floor slabs and structural columns.

The project is a practical demonstration of work carried out by Rod Collins of BRE's inorganic materials division. Its aim is to show that crushed concrete can be put to high grade use as well as being used for site fill or for landfill engineering.

Use of recycled aggregates would thus support the UK's commitment to the principles of sustainable development and help achieve official targets for the contribution of secondary materials to aggregate supply.

According to BRE, the new concrete's handling characteristics, including its pumpability, have been excellent and completely unaffected by the use of the recycled materials.

The ready mixed concrete was produced at RMC's nearby Rickmansworth plant, using ground blast furnace slag, a by-product of the iron-making industry, to replace at least half of the Portland cement in the two different mixes.

The slag saves money, improves the chemical resistance of the concrete and works well with the recycled aggregate.

Andrew Baxter

France's nuclear tests in the South Pacific may have provided the main focus of controversy for anti-nuclear campaigners in recent months, but for the people of Maki, a town in northern Japan, the big issue is right on their doorstep.

A plan by Tohoku Electric Power, the main electric utility providing electricity in northern Japan, to build a nuclear reactor in the town is hanging in the balance, and may become the latest casualty of rising anti-nuclear sentiment around the country.

Public anxiety over nuclear power is now having a direct effect on the nuclear equipment industry. Last month, in elections for the mayorship of the town, residents elected Takaaki Sasaguchi, who had been calling for the country's first referendum on the construction of a nuclear power plant.

The industry's problems have been compounded by the recent leak of three tonnes of non-radioactive sodium coolant from an experimental fast breeder reactor at Monju in western Japan. The reactor, Japan's newest, was closed down after the leak, but local residents want it shut permanently.

As a consequence of this mounting anti-nuclear sentiment, domestic demand for nuclear plants is faltering, and equipment suppliers have been forced to scale down or restructure their nuclear plant divisions.

Little wonder, therefore, that Japan's nuclear power plant builders are looking beyond the country's borders, in the hope that new demand from Asia could offset the problems they are facing at home.

Although Tohoku Electric announced the construction plan for the Maki reactor in 1988, the project has been fraught with problems from the beginning. The company paid local fishermen ¥4bn (£25.5m) in compensation, but was forced to halt administrative procedures in 1983 as land speculators and anti-nuclear groups bought up small plots of land in the planned location.

The plan has divided residents of Maki, a town of 30,000. Calls for a referendum reviewing the reactor construction heightened in 1994 following an abrupt announcement by Kanji Sato, the then mayor who had been elected on an anti-nuclear platform, that he would support the construction of the nuclear power plant.

Sato, who has tried to obstruct a referendum citing "political confusion", resigned last December following a request for his recall accompanied by signatures of 10,231 Maki residents.

Atsuko Takashima, a supporter of Sasaguchi, reckons that the changes in the resident profile of Maki, which has become a dormi-

Public opposition to nuclear power in Japan has forced utilities to go elsewhere, writes Emiko Terazono

# Not in my country



The adverse climate for nuclear power has boosted the time needed to obtain local approval for the construction of reactors

tory town for the nearby city of Niigata, have broken old political influences and increased awareness over the nuclear issue.

And while the turnout for last month's elections was a record low 45.8 per cent, Sasaguchi reckons that many residents believed his victory was secure and did not bother to vote. This was because the pro-nuclear camp had failed to find a candidate due to the Monju accident, which occurred a few weeks before the election.

Although the Japanese government's energy plan calls for the construction of 15 nuclear power stations over the next 14 years on top of the current 47 reactors to produce 70.5m kilowatts of power by 2010, there is a fear that the target may not be met.

Some utilities have already abandoned nuclear reactor construction plans. Apart from Tohoku Electric's problems at Maki, Kyushu Electric

Power recently announced a freeze on its plans to site a plant in Miyazaki on the southern island of Kyushu, due to strong local resistance.

The adverse climate for nuclear power plants has boosted the amount of time and funds needed to

As a consequence of this mounting anti-nuclear sentiment, domestic demand is faltering

obtain local approval for the purchase of land and construction of nuclear reactors.

According to a survey by the Ministry of Trade and Industry (MitI), during the 1970s it took 10 years for an electric power company to start operating a plant once the plans

were announced. However, this rose to 17 years during the 1980s and 25 years in the 1990s, and the problem could be aggravated by the Monju accident.

For the Japanese nuclear industry, therefore, the grass looks greener elsewhere. Asia's fast-growing economies are creating huge new demand for electricity, and more than 20 nuclear plant projects are being planned in parts of Asia including China and Indonesia.

Japanese nuclear plant manufacturing groups which include Mitsubishi Heavy Industries, Hitachi and Toshiba are eager to enter the expanding market. Mitsubishi is interested in Indonesia's plant project, while Hitachi and Toshiba will team up with General Electric to bid for Taiwan's planned nuclear reactor.

The overall slowdown in new orders has prompted Japan's nuclear power plant makers to

restructure their operations. Iahikawajima-Heavy Industries said it would reduce the workforce in its nuclear power plant division by 200 to 850 over the next few years by shifting employees to other parts of the company. Hitachi also plans to send some of its nuclear engineers to its semiconductor division.

The slowing demand in Japan is especially severe for Mitsubishi group, led by Mitsubishi Heavy Industries which specialises in pressurised water reactors (PWRs).

No plans for PWRs have been announced since an accident in February 1991 at the Mihama PWR plant, which Mitsubishi built for Kansai Electric Utility north of Kyoto. A broken pipe caused 55 tonnes of radioactive water from the primary cooling system to be released into the secondary system which powered the turbine.

Mitsubishi has no new orders after a PWR it is currently building for Kyushu Electric. New reactors planned for construction in Japan over the next five years have been boiling water reactors, which are made by groups led by Hitachi and Toshiba, although PWRs still dominate the international nuclear industry.

Mitsubishi is eager to fill the gap with orders from Asia and says it is probably able to construct a reactor with the expertise it has accumulated domestically. "With other countries cutting down research and development and personnel, Japanese companies have expertise in actually using new technology and building new plants," it says.

But Japanese companies are more likely to team up with their European and US counterparts for projects in Asia rather than bidding alone partly because they are latecomers to the market and partly due to the fact that Japan has yet fully to develop nuclear waste reprocessing.

"The chances are that Asian countries will want to offer the project to a company or a consortium which has nuclear waste reprocessing know-how," says an official at a Japanese plant maker.

The Japanese government is also ready to back the companies by enhancing ties between Asian companies by offering training projects for nuclear regulators. Starting next fiscal year, MitI is planning to accept officials from Asian countries in charge of regulating their nuclear industries to offer training.

In Maki, meanwhile, the newly appointed Sasaguchi says he is not a proponent of a freeze on Tohoku Electric's nuclear plant in Maki, but wants local residents to decide. His first challenge will be passing the town's budget for next fiscal year in March through the town assembly, where the pro-nuclear camp holds a

marginal majority.

## Net turns green

Crofters in the Scottish highlands could soon be using the Internet to search for information that will help them assess the environmental impact of their farming and land management decisions as part of a project with Edinburgh University.

The crofters, together with a forestry group from Valencia in Spain, will join researchers from the Netherlands, Germany and the UK in a £250,000 project to develop and try out software to back up their long-term decisions about the land.

"We would like to explore to what extent computer technology could be useful in gathering and manipulating information for us," says Bill Ritchie from the Assynt Crofters Trust.

Four years ago, the crofters bought 21,000 acres in the northwest highlands of Scotland on which they are tenants. They now have many plans for the land, but it is in an environmentally sensitive area and they want to assess the impact of their plans on the ecosystem.

Ritchie explains that they hope to build a hydro-electricity generation plant which involves raising the level of a loch. "We want to judge what the long-term effect of that would be on the fishing in the loch and what we can do to minimise any damage," he says.

Ritchie is hopeful that the crofters can gain access to other studies either through the Internet or from other sources. Computer modelling could then apply the data to their own local circumstances.

The Valencian foresters are looking at restoring land that has been burnt by wildfires and want to find information to assist them.

The project will initially last one year, but is likely to be extended for up to four years in order to set up the farmers with the right equipment and skills to use the information they find. It is being funded by the European Union.

Deborah Hargreaves

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If you're looking to move from your present job, or looking to recruit new people, the FT is IT from Friday, February 9. For more information call Clare Bellwood on +44 (0) 171 873 3351 or Will Thomas on +44 (0) 171 873 3779.

مكتبة التجميل

COMMODITIES AND AGRICULTURE

Brazil halts gold trading to quell rumours

By Jonathan Wheatley in Sao Paulo and Kenneth Gooding in London

In an unprecedented move, Brazil's central bank, frustrated that it has not been able to quell persistent rumours that a rogue trader has left it desperately short of gold, has stopped trading the precious metal.

Australia 'set to become second biggest producer'

By Nikki Tait in Sydney

Australia could become the world's second largest gold producer after South Africa, by the end of the decade, according to forecasts from the Australian Bureau of Agricultural and Resource Economics, the government-owned forecasting agency. At present it is a significantly smaller producer than the US.

As part of an attempt to manipulate the gold price upwards, frequent denials have failed to prevent the rumours from getting ever more outlandish - at the end of last week it was being suggested the bank was short of as much as 2,000 tonnes of gold, equivalent to virtually the entire annual output of all the world's gold mines - the bank said it would stop trading the metal to provide conclusive proof it was not short.

speculation would end only if the bank stopped long enough for all its contracts to expire. This seems to be what it has in mind because Mr Joubert Furtado, head of its foreign reserves department, said the bank would stop trading gold "for an indefinite period, probably some weeks".

There'll be an increase. Last year, BHP won a 12.4 per cent price increase, but also accepted a cut in hard coal contracts from 7m to 5.8m tonnes.

contracts covering 125,000 farm bales of wool have now been traded, with activity particularly marked since October.

EU has four-year 'window' for farm policy reform

By Alison Maitland

The European Union has a "unique window" of up to four years for a public debate on reforming the common agricultural policy before external events force change, a senior European Commission official said yesterday.

mission's recent internal debate on the shape and pace of future reform. He said it had rejected the status quo as untenable in the long term. On the other hand, radical reform - including abolishing price support and phasing out compensation payments - would threaten EU social and environmental policies.

compensation payments. Mr Milton added that the commission would seek to begin reforming sectors untouched in 1992 such as sugar and dairy production.

MARKET REPORT

Coffee prices stronger as investment funds return

London Commodity Exchange robusta COFFEE futures extended early gains yesterday afternoon to end 2.4 per cent up on trade and fund buying and speculative short-covering in the absence of significant producer selling, traders said.

\$45 at \$1,919 a tonne, compared with the day's high of \$1,950 a tonne. There was good fund buying in New York, forcing the contract through (buying) stops (stop-loss orders), said London trader, At the Cocoa, Sugar and Coffee Exchange coffee futures were sharply higher at mid-session, with the key March contract up 4.60 cents at \$1.254 a pound.

Exchange, with little significant price movement seen, and values were mixed by the close of the after hours "kerb" session. Traders said market leaders COPPER and ALUMINIUM had settled into tight technical ranges, with that trend being maintained by the other metals.

business was conducted around overnight levels. Copper stocks declined by 4,725 tonnes on Tuesday, largely due to metal moving out of the Hamburg warehouse for end-users. Final three months business was at \$2,527, up \$4 a tonne from Monday's Kerb close.

ALUMINIUM was well defended below \$1,600 once more, but lacked the impetus to break above \$1,620. The last trade was at \$1,608 a tonne, down \$2. Stocks rose by 4,750 tonnes, a reflection of relaxed consumer interest. Compiled from Reuters

Egypt lifts cotton export ban

By James Whittington in Cairo

In a move that should help to ease pressure on the international market for the supply of long staple cotton varieties, the Egyptian government this week has lifted its ban on cotton exports.

and domestic rising cotton prices, the government delayed any announcement on exports until local consumption had been satisfied. Egypt's main overseas buyers in Italy, Japan and Switzerland were quietly assured that deliveries would take place this season but the fourth month delay in announcing an export policy unsettled local farmers and traders.

Analysts in Cairo expect export volumes to be the same as last season. But Mr Atef Obeid, the public enterprise minister, has said he wants to see a dramatic increase in volumes over the next few years by reserving special areas for planting cotton for exports.

COMMODITIES PRICES

BASE METALS

Table with columns: Metal, Price, Change, High, Low, Vol, Open. Includes Aluminum, Copper, Lead, Zinc, Tin.

Precious Metals continued

Table with columns: Metal, Price, Change, High, Low, Vol, Open. Includes Gold, Silver, Platinum, Palladium.

GRAINS AND OIL SEEDS

Table with columns: Commodity, Price, Change, High, Low, Vol, Open. Includes Wheat, Maize, Soybeans, Barley.

SOFTS

Table with columns: Commodity, Price, Change, High, Low, Vol, Open. Includes Cocoa, Coffee, Rubber, Sugar.

MEAT AND LIVESTOCK

Table with columns: Commodity, Price, Change, High, Low, Vol, Open. Includes Live Cattle, Pork Bellies.

ENERGY

Table with columns: Commodity, Price, Change, High, Low, Vol, Open. Includes Crude Oil, Heating Oil, Natural Gas.

PRECIOUS METALS

Table with columns: Metal, Price, Change, High, Low, Vol, Open. Includes Gold, Silver, Platinum, Palladium.

FUTURES DATA

Table with columns: Commodity, Price, Change, High, Low, Vol, Open. Includes Wheat, Maize, Soybeans, Barley.

INDICES

Table with columns: Index, Price, Change, High, Low, Vol, Open. Includes NYSE, FTSE, Nikkei.

North Americans vie for Philippines mine

By Edward Luce in Manila

Three north American companies are vying to bid for full ownership of the 500m sqm (US\$20m) North Davao Mining Corporation under the Philippine government's mine privatisation scheme.

the three companies, Phelps Dodge of the US and two Canadian groups, Placer Dome and TVI Resources, were undertaking "due diligence" reviews on the North Davao Mining claim, which has an estimated reserve of 103m tonnes of copper ore. The winning bidder would also have to invest up to

US\$33m on rehabilitation of mining facilities. TVI Resources and Echo Bay Mines, a US company, last year bought the option to the Kinking gold and copper mine from Benguet Corporation of the Philippines for \$30m. The North American companies plan to start operations in 1997.

JOTTER PAD

Advertisement for Jotter Pad featuring a crossword puzzle grid and promotional text.

CROSSWORD

No. 8987 Set by CINEPHILE

Crossword puzzle grid with clues and a solution key.

The paper is always the same

- 1 Photocast back to do article in paper (3,3)
2 Copper makes a lot of trouble in paper (8)
3 Give up goldfish I found in paper (7)
4 Side effects of vulgar greeting to the refined in paper (7)
5 Island of national importance (4)
6 Get down to brass tacks and gobble! (4,6)
7 Ring containing nothing like Humpty Dumpty (5)
8 Solferino in set-up for satellite (6)
9 Southernwood makes a tasty cur (5)
10 Logs take up ships' tie up, with space for Junk (6,4)
11 Abuse as of grace with lies? (8)
12 Current that alternates between metal sheets makes peace (8)
13 A degree of sickness got a tear, sadly (8)
14 Waving in the Indian Ocean paper (6,4)
15 Note of collar of choirboy with harsh voice (5)
16 Artist that isn't? (5)
17 Spoken by the moral majority? (4)
18 Winter wear for old city firm, first in paper (3,4)
19 Commodities caused by sovereign people in paper (7)
20 First, there's nothing about doctors in paper (8)
21 Good at writing part of clue not used in paper (6)
22 Letter of "ordinal" (8)
23 Spider at an ultra gathering (8)
24 Minced beef in buoyant motion becomes buoyant object (4,4)

FRIDAY

Friday advertisement for a financial service, including contact information and a logo.

INTERNATIONAL CAPITAL MARKETS

Investors cautious ahead of Treasury auctions

By Martin Brice in London and Lisa Branstetter in New York

European government bond markets recovered some of their poise yesterday, but investors remained cautious ahead of the big bond auctions in the US.

dealers try to push up yields to make the securities more attractive to their customers. Yesterday, however, the market was cheered by a 0.3 per cent decline in chain store sales, recorded last week in the Mitsubishi-Schroder Wertheim index.

highlights of last week. In late Monday trading, the US currency rose 2 basis points, with the spread between the US and the DM1.4725 and Y105.49 compared with DM1.4675 and Y105.30.

French government bonds outperformed bonds, largely on the back of domestic buying, with the spread over 10-year bunds narrowing 5 basis points to 39. This made a tightening of 9 basis points in two days.

UK government bonds outperformed bonds, with the spread over 10-year paper tightening 2 basis points to 173, helped by manufacturing output figures that were weaker than expected.

Swedish government bond markets enjoyed a less volatile day than Monday, although a weaker krona forced bonds down, with the spread over Germany widening 19 basis points to 274.

GOVERNMENT BONDS

the stalemate between President Bill Clinton and Congressional Republicans over how to balance the federal budget. On Monday, a bipartisan group of state governors proposed a plan to cut Medicaid - the federally-funded healthcare programme for the elderly that has been a key subject of wrangling in the budget battle.

NEW INTERNATIONAL BOND ISSUES

Table with columns: Borrower, Amount, Coupon, Price, Maturity, Fees, Spread, Book runner. Includes entries for US DOLLARS, EURO, DEMARKS, SWISS FRANC, GUILDER, ITALIAN LIRE, CANADIAN DOLLARS, SOUTH AFRICAN RAND, POLISH ZLOTYS.

INTERNATIONAL BONDS

erment bond markets, which have not needed to venture abroad for funds. The pricing of Belgium's bonds, at 17 basis points over Treasuries, was deemed fair and the spread held steady.

Belgian offering breaks sovereign issue drought

The Kingdom of Belgium yesterday launched its long-awaited \$500m offering of five-year bonds, the first issue by a sovereign borrower in the dollar sector targeted at institutions since Canada's global deal last May.

First zloty eurobond

The Polish zloty yesterday joined the rapidly expanding range of currencies in which borrowers can raise money in the eurobond market.

M&A warrants from James Capel

James Capel, the stockbroker arm of HSBC Holdings, yesterday launched a series of "basket" warrants designed to give investors exposure to merger and acquisition activity in the UK market.

WORLD BOND PRICES

Table with columns: Country, Coupon, Price, Days change, Yield, Week ago, Month ago. Includes Australia, Germany, France, Italy, Japan, Netherlands, Portugal, Spain, Sweden, UK Gilts, US Treasury.

BENCHMARK GOVERNMENT BONDS

Table with columns: Country, Coupon, Price, Days change, Yield, Week ago, Month ago. Includes Australia, Germany, France, Italy, Japan, Netherlands, Portugal, Spain, Sweden, UK Gilts, US Treasury.

BOND FUTURES OPTIONS (LIFE) DM250,000 points of 100%

Table with columns: Strike, Price, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec. Includes calls and puts for various maturities.

FT-ACTUARIES FIXED INTEREST INDICES

Table with columns: Price Indexes, UK Gilts, US Treasuries, etc. Includes sub-tables for UK Gilts and US Treasuries.

FT FIXED INTEREST INDICES

Table with columns: Govt. Secs, (UK), Fixed Interest, etc. Includes sub-tables for UK and US fixed interest.

GILT EDGED ACTIVITY INDICES

Table with columns: Gilt Edged benchmarks, 5-day average, etc. Includes sub-tables for UK and US gilt edged activity.

US INTEREST RATES

Table with columns: Rate, Bid, Offer, etc. Includes Treasury Bills and Bond Yields, Prime Rate, Fed Funds, etc.

US TREASURY BOND FUTURES (CBT) \$100,000 32nds of 100%

Table with columns: Open, Settle, Change, High, Low, Est. vol, Open Int. Includes sub-tables for various maturities.

UK GILTS PRICES

Table with columns: Issue, Bid, Offer, etc. Includes various UK government securities.

FT/ISMA INTERNATIONAL BOND SERVICE

Table with columns: Issued, Bid, Offer, etc. Includes various international bonds.

DEUTSCHE MARK STRAIGHTS

Table with columns: Issue, Bid, Offer, etc. Includes various Deutsche Mark bonds.

SWISS FRANC STRAIGHTS

Table with columns: Issue, Bid, Offer, etc. Includes various Swiss Franc bonds.

Other Fixed Interest

Table with columns: Issue, Bid, Offer, etc. Includes various international fixed interest securities.

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M&A warrants from James Capel

By Antonia Sharpe

James Capel, the stockbroker arm of HSBC Holdings, yesterday launched a series of "basket" warrants designed to give investors exposure to merger and acquisition activity in the UK market.

be used for various investment strategies.

For example, an investor in stocks seen as an takeover situation could increase his leverage by buying the warrant rather than the stocks. The warrants could also be bought by an investor who wanted to sell the underlying stocks but not lose the economic effect of holding them.

First zloty eurobond

By Corinne Middelmann

The Polish zloty yesterday joined the rapidly expanding range of currencies in which borrowers can raise money in the eurobond market.

do not have custodial arrangements in Poland and therefore have no access to the domestic Polish T-bill market.

Mr Morgan was targeting institutional investors who are already active in the T-bill market, but who want to extend maturities.

Other Fixed Interest

Table with columns: Issue, Bid, Offer, etc. Includes various international fixed interest securities.

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CURRENCIES AND MONEY

MARKETS REPORT

EMU fallout boosts sterling to four month high

By Philip Gawth

Sterling rallied to a four month high against the D-Mark yesterday despite evidence of general weakness in the UK manufacturing sector...

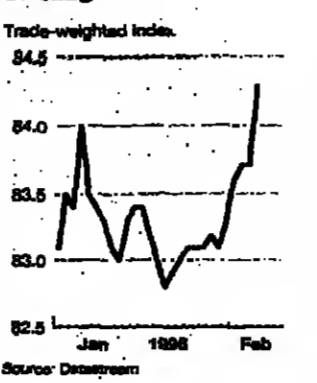
Treasury refunding auction which started yesterday. The release today of the November trade data could also help the dollar...

is certainly the beneficiary at this moment of the government's ambivalent stance towards Europe. Mr Tony Norfield, UK treasury economist at ABN AMRO in London, said that there was less policy panic in the UK than in many other European countries...

tract finished seven basis points higher at 94.15. The main moves in currency markets at present are being driven by the combination of concerns about the European single currency project...

reversal of expectations was likely to keep the dollar's tone damp in the short term. The release today of the latest gold and foreign exchange reserve figures in South Africa will be closely watched...

Mr Joe Prendergast, currency strategist at Merrill Lynch in London, said that the dollar historically tracked shifts in interest rate expectations, rather than actual moves in rates. He highlighted the "very bearish move in German interest rate expectations following the deep easing of the past few weeks."



your face after the first few weeks. Sterling's rally came despite the weak manufacturing data, which encouraged speculation that a further cut in interest rates may be on the agenda...

POUND SPOT FORWARD AGAINST THE POUND

Table with columns for Country, Currency, Closing mid-point, Change on day, Bid/Offer spread, Day's mid high low, One month Rate, Three month Rate, One year Rate, and Bank of England Index.

DOLLAR SPOT FORWARD AGAINST THE DOLLAR

Table with columns for Country, Currency, Closing mid-point, Change on day, Bid/Offer spread, Day's mid high low, One month Rate, Three month Rate, One year Rate, and J.P. Morgan Index.

WORLD INTEREST RATES

Table showing MONEY RATES and EURO CURRENCY INTEREST RATES for various countries and currencies, including Belgium, France, Germany, Italy, Netherlands, Switzerland, and the US.

CROSS RATES AND DERIVATIVES

Table showing EXCHANGE CROSS RATES for various currencies including the British Pound, Japanese Yen, Swiss Franc, and others.

THE FT GUIDE TO WORLD CURRENCIES

Advertisement for the FT Guide to World Currencies, a publication providing real-time data on world currencies and exchange rates.

FAST 64 BIT SATELLITE TECHNOLOGY

Advertisement for Berkeley Futures Limited, highlighting their use of 64-bit satellite technology for real-time data on the US and European exchanges.

UK INTEREST RATES

Table showing LONDON MONEY RATES for various currencies including the Sterling, Swiss Franc, and Japanese Yen.

EMU EUROPEAN CURRENCY UNIT RATES

Table showing EMU EUROPEAN CURRENCY UNIT RATES for various countries including Spain, Netherlands, Belgium, and others.

NEW 24-HOUR BUREAU DESK

Advertisement for a 24-hour bureau desk providing services for clients in the US and Europe.

BASE LENDING RATES

Table showing BASE LENDING RATES for various banks and financial institutions across different regions.

PHILADELPHIA 92 2/8 OATS

Table showing PHILADELPHIA 92 2/8 OATS prices and other market data.

WANT TO KNOW A SECRET?

Advertisement for Market-Eye, a service providing real-time equity, futures, options, and news data.

US TREASURY BILL FUTURES

Table showing US TREASURY BILL FUTURES prices and other market data.

TREND ANALYSIS LTD

Advertisement for Trend Analysis Ltd, offering daily analysis and trading recommendations for various commodities.

OFFSHORE COMPANIES

Advertisement for off-shore companies, providing information on legal notices and court of Rome bankruptcy sections.

GIVE US A STAPLE

Advertisement for Macmillan, promoting their fund for cancer research and offering a staple product.

MEMBERS OF LONDON INVESTMENT BANKING ASSOCIATION

Table listing members of the London Investment Banking Association.

BERKELEY FUTURES LIMITED

Advertisement for Berkeley Futures Limited, providing contact information and services.

LEGAL NOTICES

Legal notices and court of Rome bankruptcy sections, including details on the Macmillan fund.

LONDON SHARE SERVICE

ALCOHOLIC BEVERAGES

Table listing companies in the Alcoholic Beverages sector with columns for company name, price, and change.

BANKS, MERCHANT

Table listing companies in the Banks, Merchant sector with columns for company name, price, and change.

BANKS, RETAIL

Table listing companies in the Banks, Retail sector with columns for company name, price, and change.

BREWERIES, PUBS & REST

Table listing companies in the Breweries, Pubs & Rest sector with columns for company name, price, and change.

BUILDING & CONSTRUCTION

Table listing companies in the Building & Construction sector with columns for company name, price, and change.

BUILDING MATS. & MERCHANTS

Table listing companies in the Building Mats. & Merchants sector with columns for company name, price, and change.

CHIMICALS

Table listing companies in the Chemicals sector with columns for company name, price, and change.

DIVERSIFIED INDUSTRIALS

Table listing companies in the Diversified Industrials sector with columns for company name, price, and change.

ELECTRICITY

Table listing companies in the Electricity sector with columns for company name, price, and change.

ELECTRONIC & ELECTRICAL EQPT

Table listing companies in the Electronic & Electrical Equipment sector with columns for company name, price, and change.

ENGINEERING, VEHICLES

Table listing companies in the Engineering, Vehicles sector with columns for company name, price, and change.

EXTRACTIVE INDUSTRIES

Table listing companies in the Extractive Industries sector with columns for company name, price, and change.

HOUSEHOLD GOODS

Table listing companies in the Household Goods sector with columns for company name, price, and change.

BUILDING MATS. & MERCHANTS - Cont.

Continuation of Building Mats. & Merchants table.

CHIMICALS

Table listing companies in the Chemicals sector (continued).

DISTRIBUTORS

Table listing companies in the Distributors sector with columns for company name, price, and change.

ENGINEERING

Table listing companies in the Engineering sector with columns for company name, price, and change.

EXTRACTIVE INDUSTRIES - Cont.

Continuation of Extractive Industries table.

FOOD PRODUCERS

Table listing companies in the Food Producers sector with columns for company name, price, and change.

GAS DISTRIBUTION

Table listing companies in the Gas Distribution sector with columns for company name, price, and change.

HEALTH CARE

Table listing companies in the Health Care sector with columns for company name, price, and change.

HOUSEHOLD GOODS

Table listing companies in the Household Goods sector (continued).

INVESTMENT TRUSTS

Table listing companies in the Investment Trusts sector with columns for company name, price, and change.

INSURANCE

Table listing companies in the Insurance sector with columns for company name, price, and change.

INVESTMENT TRUSTS

Table listing companies in the Investment Trusts sector (continued).

INV TRUSTS SPLIT CAPITAL

Table listing companies in the Split Capital Investment Trusts sector with columns for company name, price, and change.

ELECTRONIC & ELECTRICAL EQPT - Cont.

Continuation of Electronic & Electrical Equipment table.

ENGINEERING

Table listing companies in the Engineering sector (continued).

EXTRACTIVE INDUSTRIES - Cont.

Continuation of Extractive Industries table.

FOOD PRODUCERS

Table listing companies in the Food Producers sector (continued).

GAS DISTRIBUTION

Table listing companies in the Gas Distribution sector (continued).

HEALTH CARE

Table listing companies in the Health Care sector (continued).

HOUSEHOLD GOODS - Cont.

Continuation of Household Goods table.

INSURANCE

Table listing companies in the Insurance sector (continued).

INVESTMENT TRUSTS

Table listing companies in the Investment Trusts sector (continued).

INV TRUSTS SPLIT CAPITAL

Table listing companies in the Split Capital Investment Trusts sector (continued).

EXTRACTIVE INDUSTRIES - Cont.

Continuation of Extractive Industries table.

FOOD PRODUCERS

Table listing companies in the Food Producers sector (continued).

GAS DISTRIBUTION

Table listing companies in the Gas Distribution sector (continued).

HEALTH CARE

Table listing companies in the Health Care sector (continued).

HOUSEHOLD GOODS - Cont.

Continuation of Household Goods table.

INSURANCE

Table listing companies in the Insurance sector (continued).

INVESTMENT TRUSTS

Table listing companies in the Investment Trusts sector (continued).

INV TRUSTS SPLIT CAPITAL

Table listing companies in the Split Capital Investment Trusts sector (continued).

HOUSEHOLD GOODS - Cont.

Continuation of Household Goods table.

INSURANCE

Table listing companies in the Insurance sector (continued).

INVESTMENT TRUSTS

Table listing companies in the Investment Trusts sector (continued).

INV TRUSTS SPLIT CAPITAL

Table listing companies in the Split Capital Investment Trusts sector (continued).

INVESTMENT TRUSTS - Cont.

Continuation of Investment Trusts table.

INV TRUSTS SPLIT CAPITAL

Table listing companies in the Split Capital Investment Trusts sector (continued).

INV TRUSTS SPLIT CAPITAL

Table listing companies in the Split Capital Investment Trusts sector (continued).

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Table listing companies in the Split Capital Investment Trusts sector (continued).

INV TRUSTS SPLIT CAPITAL

Table listing companies in the Split Capital Investment Trusts sector (continued).

INV TRUSTS SPLIT CAPITAL

Table listing companies in the Split Capital Investment Trusts sector (continued).

مكاتبنا في لندن

LONDON SHARE SERVICE

HYPERLINK SPLIT CAPITAL - Cont.

Table listing various companies under the 'HYPERLINK SPLIT CAPITAL' category with columns for company name, price, and change.

LEISURE & HOTELS - Cont.

Table listing companies in the 'LEISURE & HOTELS' sector.

OTHER FINANCIAL - Cont.

Table listing companies in the 'OTHER FINANCIAL' sector.

PROPERTY - Cont.

Table listing companies in the 'PROPERTY' sector.

SUPPORT SERVICES - Cont.

Table listing companies in the 'SUPPORT SERVICES' sector.

AM - Cont.

Table listing companies in the 'AM' (Australasia) region.

AMERICANS

Table listing companies in the 'AMERICANS' region.

OTHER INVESTMENT TRUSTS

Table listing various investment trusts.

INVESTMENT COMPANIES

Table listing various investment companies.

LIFE ASSURANCE

Table listing life assurance companies.

MEDIA

Table listing media companies.

PAPER, PACKAGING & PRINTING

Table listing companies in the paper, packaging, and printing sector.

PHARMACEUTICALS

Table listing pharmaceutical companies.

RETAILERS, FOOD

Table listing food retailers.

RETAILERS, GENERAL

Table listing general retailers.

TELECOMMUNICATIONS

Table listing telecommunications companies.

TEXTILES & APPAREL

Table listing companies in the textiles and apparel sector.

AMERICANS

Table listing American companies.

CANADIANS

Table listing Canadian companies.

SOUTH AFRICANS

Table listing South African companies.

Advertisement for 'Foreign exchange deals to increase on 7th March 1996' by PictureTel, featuring contact information and a brief description of their services.

TOBACCO

Table listing tobacco companies.

TRANSPORT

Table listing transport companies.

GUIDE TO LONDON SHARE SERVICE

Guide to London Share Service: Prices for the London Share Service... Includes instructions on how to use the service and what information is provided.

PHARMACEUTICALS - Cont.

Continuation of pharmaceutical companies table.

RETAILERS, GENERAL - Cont.

Continuation of general retailers table.

WATER

Table listing water companies.

AM

Table listing companies in the AM region.

OIL INTEGRATED

Table listing oil integrated companies.

OTHER FINANCIAL

Table listing other financial companies.

LEISURE & HOTELS

Table listing leisure and hotels companies.



FT MANAGED FUNDS SERVICE

Daytime Unit Trust Prices are available over the telephone. Call the FT Daytime Help Desk on (+44 171) 673 4379 for more details.

هذه امه الاصل

Table listing various fund units with columns for fund name, price, and change. Includes sections for Nikko Asia Convertible Bond Fund, Nikko Bank (Luxembourg) S.A., and Nikko Asia Infrastructure Fd SICAV.

Table listing various fund units with columns for fund name, price, and change. Includes sections for Nikko Asia Infrastructure Fd SICAV, Nikko Asia Infrastructure Fd SICAV, and Nikko Asia Infrastructure Fd SICAV.

Table listing various fund units with columns for fund name, price, and change. Includes sections for Nikko Asia Infrastructure Fd SICAV, Nikko Asia Infrastructure Fd SICAV, and Nikko Asia Infrastructure Fd SICAV.

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Table listing various fund units with columns for fund name, price, and change. Includes sections for Nikko Asia Infrastructure Fd SICAV, Nikko Asia Infrastructure Fd SICAV, and Nikko Asia Infrastructure Fd SICAV.

OTHER OFFSHORE FUNDS

OFFSHORE INSURANCES

MANAGED FUNDS NOTE: Prices are in British pounds sterling (£) and have been rounded to the nearest penny. Prices are subject to change without notice. The majority of the funds are managed by the respective authorities.

LONDON STOCK EXCHANGE

MARKET REPORT

Corporate announcements take centre stage

By Philip Coggan, Markets Editor

Macro-economic issues took a back seat yesterday as the market absorbed the news of the break-up of British Gas into two separate companies and a profits warning from Allied Domecq.

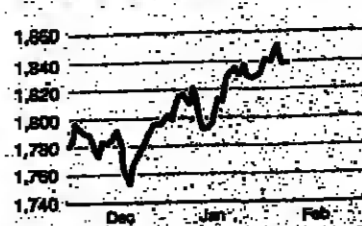
received an initial lift, but analysts were sceptical about the demerger's merits and the result was that the shares closed lower on the day.

growth, but the shares were hit by the Office of Fair Trading's referral of this weakness - which is largely an export phenomenon - is being offset by strength in the consumer sector, there is little doubt that the economy overall will continue to grow at below its long term sustainable rate in the near term.

Mr Adam Cole, UK economist at James Capel, said: "Although part of this weakness - which is largely an export phenomenon - is being offset by strength in the consumer sector, there is little doubt that the economy overall will continue to grow at below its long term sustainable rate in the near term.

ing. The latter helped the Footsie lift off its worst level of the day - down 5 at 3,741.6.

FT-SE-A All-Share Index



Indices and ratios

Table with 3 columns: Index Name, Value, Change. Includes FT-SE 100 (3747.5), FT-SE Mid 250 (4140.1), FT-SE-A 350 (1864.8), FT-SE-A All-Share (1838.4), FT-SE-A All-Share yield (3.72), FT Ordinary Index (2700.5), FT-SE 100 Dividend yield (4.70%), FT-SE 100 P/E ratio (10.0), FT-SE 100 Dividend cover (1.0), FT-SE 100 Dividend yield (4.70%), FT-SE 100 Dividend cover (1.0).

Equity shares index



Demerger deflates Gas

British Gas suffered a day of heavy turnover and a swinging share price following news that the company is to split and the chief executive is to go.

Redland advances

Building materials leader Redland topped the Footsie performance charts in good volume on confirmation that the group is to sell its UK brick operations and beef up its stake in German subsidiary Bras.

Domecq warning

The latest demerger speculation settled on spirits and food group Allied Domecq after it surprised the market with a profits warning.

London market data

Table with 3 columns: Category, Value, Change. Includes FT-SE 100 (3747.5), FT-SE Mid 250 (4140.1), FT-SE-A 350 (1864.8), FT-SE-A All-Share (1838.4), FT-SE-A All-Share yield (3.72), FT Ordinary Index (2700.5), FT-SE 100 Dividend yield (4.70%), FT-SE 100 P/E ratio (10.0), FT-SE 100 Dividend cover (1.0).

FT-SE Actuarial Share Indices

Table with 3 columns: Index Name, Value, Change. Includes FT-SE 100 (3747.5), FT-SE Mid 250 (4140.1), FT-SE-A 350 (1864.8), FT-SE-A All-Share (1838.4), FT-SE-A All-Share yield (3.72), FT Ordinary Index (2700.5), FT-SE 100 Dividend yield (4.70%), FT-SE 100 P/E ratio (10.0), FT-SE 100 Dividend cover (1.0).

FT-SE Actuarial All-Share

Table with 3 columns: Index Name, Value, Change. Includes FT-SE 100 (3747.5), FT-SE Mid 250 (4140.1), FT-SE-A 350 (1864.8), FT-SE-A All-Share (1838.4), FT-SE-A All-Share yield (3.72), FT Ordinary Index (2700.5), FT-SE 100 Dividend yield (4.70%), FT-SE 100 P/E ratio (10.0), FT-SE 100 Dividend cover (1.0).

Hourly movements

Table with 3 columns: Index Name, Value, Change. Includes FT-SE 100 (3747.5), FT-SE Mid 250 (4140.1), FT-SE-A 350 (1864.8), FT-SE-A All-Share (1838.4), FT-SE-A All-Share yield (3.72), FT Ordinary Index (2700.5), FT-SE 100 Dividend yield (4.70%), FT-SE 100 P/E ratio (10.0), FT-SE 100 Dividend cover (1.0).

FT-SE Actuarial 350 Industry baskets

Table with 3 columns: Index Name, Value, Change. Includes FT-SE 100 (3747.5), FT-SE Mid 250 (4140.1), FT-SE-A 350 (1864.8), FT-SE-A All-Share (1838.4), FT-SE-A All-Share yield (3.72), FT Ordinary Index (2700.5), FT-SE 100 Dividend yield (4.70%), FT-SE 100 P/E ratio (10.0), FT-SE 100 Dividend cover (1.0).

Hourly movements

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PETROFINA advertisement. Petrofina's share in the Group's unaudited consolidated results is estimated at 11.6 billion BEF in 1995 compared to 10.3 billion BEF in 1994. Results include a 1.3 billion BEF non-recurrent net charge in 1994, they included 2 billion BEF net gains and non-recurrent results.

European Postal Services advertisement. The Financial Times plans to publish a Survey on European Postal Services on Wednesday, February 14. If you would like to reach readers in 160 countries worldwide with an advertisement, contact: Kirsty Saunders, Tel: 0171 873 4823, Fax: 0171 873 3204.

FT-SE Actuarial Share Indices and The UK Series. Table with 3 columns: Index Name, Value, Change. Includes FT-SE 100 (3747.5), FT-SE Mid 250 (4140.1), FT-SE-A 350 (1864.8), FT-SE-A All-Share (1838.4), FT-SE-A All-Share yield (3.72), FT Ordinary Index (2700.5), FT-SE 100 Dividend yield (4.70%), FT-SE 100 P/E ratio (10.0), FT-SE 100 Dividend cover (1.0).

Kia Motors Corporation advertisement. Kia's 1995 sales in the UK are estimated at 11.6 million units, a 10% increase on 1994. Kia's 1995 sales in the UK are estimated at 11.6 million units, a 10% increase on 1994.

The Humber Ports Gateway to Europe advertisement. The Financial Times plans to publish a Survey on The Humber Ports Gateway to Europe on Thursday, March 14. If you would like to reach readers in 160 countries worldwide with an advertisement, contact: Kirsty Saunders, Tel: 0171 873 4823, Fax: 0171 873 3204.

CITY INDEX advertisement. We are the leaders in financial and commodity general listing. Accurately and impartially reported within 72 hours. Up-to-date prices from 9am to 5pm. Free 100 Telephone. CMA, For free brochures and account applications, please call 0171 323 5667.

Pat Looker advertisement. The FT is circulated in 160 countries worldwide, with a readership in excess of one million people. The Weekday FT is read by 139,000 senior business people in Great Britain. More senior UK business people read the FT than any other National Daily Newspaper. More than half of Europe's top Chief Executives read the FT. The FT reaches more Captains of Industry in Great Britain than any other national newspaper.

83% price forecasting advertisement. Financial Software 0121 233 0073. We are the leaders in financial and commodity general listing. Accurately and impartially reported within 72 hours. Up-to-date prices from 9am to 5pm. Free 100 Telephone. CMA, For free brochures and account applications, please call 0171 323 5667.

Pat Looker advertisement. The FT is circulated in 160 countries worldwide, with a readership in excess of one million people. The Weekday FT is read by 139,000 senior business people in Great Britain. More senior UK business people read the FT than any other National Daily Newspaper. More than half of Europe's top Chief Executives read the FT. The FT reaches more Captains of Industry in Great Britain than any other national newspaper.

Petroleum Argus Daily Oil Price Reports advertisement. We are the leaders in financial and commodity general listing. Accurately and impartially reported within 72 hours. Up-to-date prices from 9am to 5pm. Free 100 Telephone. CMA, For free brochures and account applications, please call 0171 323 5667.

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FT-SE Actuarial Share Indices and The UK Series. Table with 3 columns: Index Name, Value, Change. Includes FT-SE 100 (3747.5), FT-SE Mid 250 (4140.1), FT-SE-A 350 (1864.8), FT-SE-A All-Share (1838.4), FT-SE-A All-Share yield (3.72), FT Ordinary Index (2700.5), FT-SE 100 Dividend yield (4.70%), FT-SE 100 P/E ratio (10.0), FT-SE 100 Dividend cover (1.0).

Handwritten text in Arabic script: "مكتبة الجليل"

هل انت لادى

WORLD STOCK MARKETS

EUROPE

Table of stock market data for Europe, including Austria (Feb 6/96), Belgium (Feb 6/96), Denmark (Feb 6/96), Finland (Feb 6/96), France (Feb 6/96), Germany (Feb 6/96), Greece (Feb 6/96), Ireland (Feb 6/96), Italy (Feb 6/96), Luxembourg (Feb 6/96), Netherlands (Feb 6/96), Norway (Feb 6/96), Portugal (Feb 6/96), Spain (Feb 6/96), Sweden (Feb 6/96), Switzerland (Feb 6/96), and UK (Feb 6/96).

ASIA

Table of stock market data for Asia, including Australia (Feb 6/96), Hong Kong (Feb 6/96), India (Feb 6/96), Japan (Feb 6/96), Korea (Feb 6/96), Malaysia (Feb 6/96), New Zealand (Feb 6/96), Singapore (Feb 6/96), Taiwan (Feb 6/96), and Thailand (Feb 6/96).

AMERICAS

Table of stock market data for Americas, including Canada (Feb 6/96), Mexico (Feb 6/96), and USA (Feb 6/96).

AFRICA

Table of stock market data for Africa, including South Africa (Feb 6/96).

MIDDLE EAST

Table of stock market data for Middle East, including Israel (Feb 6/96).

INDICES

Table of various stock indices including Dow Jones, Nikkei, and others.

US INDICES

Table of US stock indices including Dow Jones, S&P 500, and others.

NEW YORK

Table of stock market data for New York, including NYSE and NASDAQ.

COMMODITIES

Table of commodity prices including oil, gold, and other metals.

Advertisement for Rockwell: 'From outer space to the factory floor Rockwell leads the way'. Includes Rockwell logo and contact information.

Table of stock market data for Europe (continued).

Table of stock market data for Asia (continued).

Table of stock market data for Americas (continued).

Table of stock market data for Africa (continued).

Table of stock market data for Middle East (continued).

Table of stock market data for Europe (continued).

Table of stock market data for Asia (continued).

Table of stock market data for Americas (continued).

Table of stock market data for Africa (continued).

Table of stock market data for Middle East (continued).

Table of stock market data for Europe (continued).

Table of stock market data for Asia (continued).

Table of stock market data for Americas (continued).

Table of stock market data for Africa (continued).

Table of stock market data for Middle East (continued).

Table of stock market data for Europe (continued).

Table of stock market data for Asia (continued).

Table of stock market data for Americas (continued).

Table of stock market data for Africa (continued).

Table of stock market data for Middle East (continued).

Footnote and disclaimer text at the bottom of the page.

NEW YORK STOCK EXCHANGE COMPOSITE PRICES

1 pm close February 6

Table with columns: Symbol, Price, Change, Volume. Includes major indices like S&P 500, Dow Jones, and Nikkei.

Table with columns: Symbol, Price, Change, Volume. Lists various individual stocks.

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Continued on next page

Advertisement for BLOUR GUEST at CIRAGAN PALACE HOTEL Kempinski Istanbul. Includes contact information and a small logo.

Handwritten Arabic text: 'مكتبات الكويت' (Libraries of Kuwait).



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NYSE COMPOSITE PRICES

Main table of NYSE Composite Prices, listing various stocks with columns for stock name, price, and change.

NASDAQ NATIONAL MARKET

Main table of NASDAQ National Market prices, listing various stocks with columns for stock name, price, and change.

AMEX COMPOSITE PRICES

Table of AMEX Composite Prices, listing various stocks with columns for stock name, price, and change.

Vertical text on the left margin, possibly a page number or reference.

Large advertisement for 'Switzerland' featuring a map and text about delivering the Financial Times to various locations.

Vertical text on the left margin, possibly a page number or reference.

AMERICA

Technology stocks stage midday rally

Wall Street

Technology shares continued Monday's rally in midday trading yesterday, helping to put US share prices on course for another record finish, writes Lisa Branstetter in New York.

Broaderbunt

In the Dow, Goodyear Tire & Rubber rose 1 1/4% to \$48 1/2, Union Carbide was up 1/4% to \$43 1/2 and Caterpillar added 3/4% to \$61 1/2.

The market shrugged off news that Mr Charles Clough, chief investment strategist at Merrill Lynch, had lowered his recommended allocation on equities to 45 per cent from 50 per cent.

Advancing technology issues helped the Nasdaq composite to add 5.75 to 1,089.09. The Pacific Stock Exchange technology index rose 0.9 per cent.

IBM, which is a component of the Dow, continued the upward path on which it embarked last month after

Buenos Aires recovers

Buenos Aires staged a partial recovery after Monday's 4 per cent loss. By midsession the blue chip Merval index was 4.98 points better at 539.92.

S African golds drift lower

Johannesburg drifted lower in moderate dealings as gold bullion struggled to maintain its price level, and base metals tumbled.

FT-SE Actuarial World Indices

Table with columns for National Markets, Regional Markets, and Dollar Index. Includes sub-tables for Monday February 6 1996 and Friday February 2 1996. Lists various countries and their stock indices.

EUROPE

Oils weak in Paris as Goldman adds downgrade

Oil majors were active in PARIS as Goldman Sachs followed J.P. Morgan's downgrade last week of Total and, in addition, deleted Elf Aquitaine from its list of recommended stocks.

Goldman reduced its exposure to Total following the group's preliminary 1995 results announcement last week. The US investment bank said that it had reduced its estimates for net income in 1996 and 1997 to FF4.7bn from FF5.6bn.

J.P. Morgan said that it was concerned about the outlook for the company's chemicals division. "Slower GDP growth in Europe in 1996, particularly in France, could have a significant negative influence on this business," the banker remarked.

ASIA PACIFIC

Nikkei ahead as Taipei drops 1.4% on China threat

Speculative purchases and technical activity balanced earlier losses caused by the yen's rise against the dollar, and the Nikkei average stepped up for the first time in three trading days, writes Emiko Terazono in Tokyo.

The 225-share index put on 97.77 to 20,751.15 after moving between 20,555.61 and 20,767.79. The dollar's decline below the Y106 level prompted profit-taking, while foreigners, discouraged by mounting uncertainty over the housing loan bailout, turned net sellers.

Roundup

Worries about a possible military threat from mainland China left TAIPEI down another 1.4 per cent. The weighted index dropped 69.03 to 4,680.22.

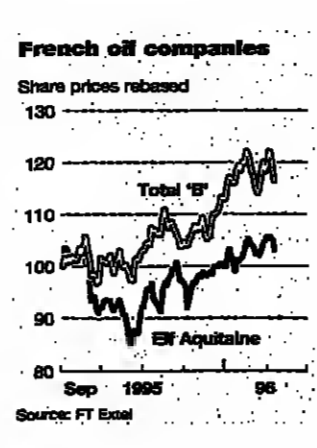
The market had been frightened by a report in a Hong Kong newspaper that China was planning a military exercise involving 400,000 troops on land opposite Taiwan.

While most analysts did not expect an invasion, any build-up of force by the Chinese in the past had been a cue for heavy selling. The market was also anxious ahead of the presidential election on March 23.

BOMBAY turned sharply lower after an untrue rumour, that the opposition Bharatiya Janata party leader L.K. Advani had been assassinated, gave speculators the opportunity to take profits following the market's 1.4 per cent surge during the previous six sessions.

The BSE-300 index finished 78.43 down at 3,154.69 as Reliance fell Rs17.50 to Rs302. HONG KONG closed off the day's low as a late rally in blue chips, rumoured to be the object of covered warrant issues, erased some of the effects of earlier profit-taking.

The Hang Seng index ended 92.74 down at 11,391.38. Turnover shrank to HK\$7.1bn. Among shares that climbed late in the day, Hutchison finished 50 cents up at HK\$62.25. Swire A jumped HK\$1.25 to



for a two-day gain of DM36 or 27.7 per cent on its dialysis equipment merger deal with W.R. Grace, of the US. At this level the shares, although priced at a discount of DM16.50 to the relatively illiquid ordinary shares, were on a 1995 estimated p/e of 32 after more than trebling in under two years.

SINGAPORE

SINGAPORE ended a little firmer, but well below early record-breaking highs as dealers took some profits from the top of the recent bull run. The Straits Times Industrial index finished 9.70 higher at 2,493.77, having peaked in early trade at a record intra-day level of 2,503.96, breaching 2,500 for the first time.

KUALA LUMPUR failed to take heart at an unexpectedly modest November deficit, although a late rally nudged the composite index into positive territory to close 2.91 up at 1,082.79.

Roundup

Worries about a possible military threat from mainland China left TAIPEI down another 1.4 per cent. The weighted index dropped 69.03 to 4,680.22.

The market had been frightened by a report in a Hong Kong newspaper that China was planning a military exercise involving 400,000 troops on land opposite Taiwan.

While most analysts did not expect an invasion, any build-up of force by the Chinese in the past had been a cue for heavy selling. The market was also anxious ahead of the presidential election on March 23.

BOMBAY turned sharply lower after an untrue rumour, that the opposition Bharatiya Janata party leader L.K. Advani had been assassinated, gave speculators the opportunity to take profits following the market's 1.4 per cent surge during the previous six sessions.

The BSE-300 index finished 78.43 down at 3,154.69 as Reliance fell Rs17.50 to Rs302. HONG KONG closed off the day's low as a late rally in blue chips, rumoured to be the object of covered warrant issues, erased some of the effects of earlier profit-taking.

The Hang Seng index ended 92.74 down at 11,391.38. Turnover shrank to HK\$7.1bn. Among shares that climbed late in the day, Hutchison finished 50 cents up at HK\$62.25. Swire A jumped HK\$1.25 to

FT-SE Actuarial Share Indices

Table showing FT-SE Actuarial Share Indices for Feb 6, 1996. Columns include 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200.

PI 68.80 as investors responded to Monday's news that its troubled German subsidiary, Grundig, was to be restructured, and that the Dutch parent would no longer be responsible for any losses that Grundig might make from 1997 onwards.

AMSTERDAM enjoyed a healthier session than the one which started the week, regained the 500 level and closed up 4.38 at 502.73. Philips made FI 1.90 to

declines in Samsung Electronics and profit-taking in banking shares, and the composite index finished 9.47 weaker at 881.21 in relatively active volume of 30.2m shares.

Samsung Electronics lost Won7,000 to Won135,000 on rumours that Merrill Lynch had reported softening demand for semiconductors.

SYDNEY was slightly lower, led by a decline in gold stocks. The All Ordinaries index eased 2.0 to 2,269.7. Volume was 247.6m shares worth A\$538.1m.

Dealers said domestic investors were withdrawing from market activity ahead of the general election on March 2. The gold shares index fell 30.5 to 2,237.5, with Newcrest Mining retreating 17 cents

to A\$6.28. Gold Mines of Kalgoorlie 4 cents to A\$1.53 and PosGold 6 cents to A\$3.45.

The banking sector weakened after recent gains on speculation that the Conservative opposition party might win the general election. Coca Cola-Amatil shed 24 cents to A\$12.50 ahead of today's 1995 results.

MANILA was affected by the overnight fall in Philippine Long Distance Telephone on Wall Street. As a consequence the composite index lost 4.21 to 2,915.03, in volume of 1.7bn shares worth 2.1bn pesos.

BANGKOK was modestly firmer in spite of a lack of foreign interest. The SET index advanced 4.06 at 1,415.04 in turnover of B\$4.4bn.

"Samba achieves record results for the seventh successive year."

1995 saw Saudi American Bank's profits increase for the seventh consecutive year reflecting continued success in our strategy of emphasising a process of product and technology innovation focusing on providing superior customer service.

Our key financial indicators remain excellent, with return on equity of 29% (1994: 29%, 1993: 32%) which is one of the highest in the region and earnings per share of SR 44.7 (1994: SR 42.3, 1993: SR 39.3).

After taking into account the Bank's performance during the year and after retaining adequate funds for future expansion requirements, the Board of Directors recommended a gross dividend of SR 6.28 per share for the year 1995.

Financial Highlights table comparing 1995 and 1994 performance across various metrics like Assets, Liabilities, and Earnings.

Saudi American Bank logo and contact information for various offices including London, New York, and Riyadh.

